ORDER NO. MB9410050C2

Service Manual

Compact Disc Player

Compact Disc Player

SL-PS670A

Colour

(K) : Black

Areas

Suffix for Model No.	Area	Colour
(E)	Europe	(K)
(EB)	Britain	
(EG)	Germany and Italy	

RAE1100Z MECHANISM SERIES

Specifications

■ Audio

No. of channels	2 (left and right, stereo)
Frequency response	2 – 20,000 Hz, ± 0.5 dB
Output voltage	2 V (at 0 dB)
Dynamic range	98 dB
S/N	107 dB
Harmonic distortion	0.002% (1 kHz, 0 dB)
Total harmonic distortion	0.0027% (1 kHz, 0 dB)
Wow and flutter	Below measurable limit
DA converter	MASH (1 bit)
Output impedance	600 Ω
Load impedance	More than 10 kΩ
Headphone output level	15 mW max. 32 Ω (adjustable)

■ Pickup

Wavelength	780 nm
Laser Power	No hazardous radiation is emitted (with safety protection)

■ General

Power consumption	15 W
Power supply	AC 50/60 Hz, 230 – 240 V
Dimensions (W × H × D)	430 × 114 × 290 mm
Weight	4.0 kg

Note:

Specifications are subject to change without notice.

Weight and dimensions are approximate.

For United Kingdom only:

This apparatus was produced to BS 800.

*

- MASH is a trademark of NTT.

⚠WARNING

This service information is designed for experienced repair technicians only and is designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.

Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Technics®

© 1994 Matsushita Electric Industrial Co., Ltd.
All rights reserved. Unauthorized copying
and distribution is a violation of law.

Contents

Page
- Handling Precautions for Traverse Deck 2
- Precaution of Laser Diode 2, 3
- Accessories 3
- Connections 3
- Caution for AC Mains Lead 4
- Location of Controls 5
- Basic Operating Procedure 6
- Operation Check and
  Main Component Replacement Procedures .... 7~13
- Block Diagram 14, 15

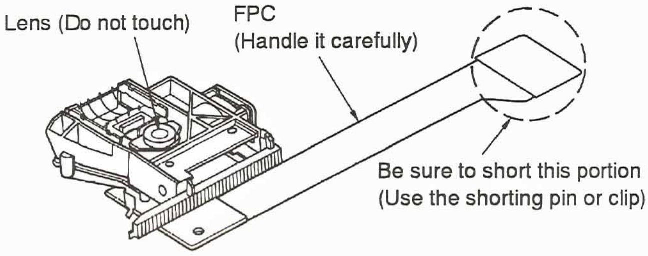
Page
- Schematic Diagram .... 16~22
- Printed Circuit Board Diagram .... 23~25
- Wiring Connection Diagram 26
- Troubleshooting Guide 27, 28
- Automatic Adjustment Results Display Function 29
- Function of IC Terminals .... 30~33
- Replacement Parts List .... 34~41
- Cabinet Parts Location 38, 39
- Loadiong Unit Parts Location 40

Handing Precautions for Traverse Deck

The laser diode in the traverse deck (optical pickup) may break down due to potential difference caused by static electricity of clothes or human body. So, be careful of electrostatic breakdown during repair of the traverse deck (optical pickup).

• Handling of traverse deck (optical pickup)

1. Do not subject the traverse deck (optical pickup) to static electricity as it is extremely sensitive to electrical shock.
2. To prevent the breakdown of the laser diode, an anti-static shorting pin is inserted into the flexible board (FPC board).
   When removing or connecting the short pin, finish the job in as short time as possible.
3. Take care not to apply excessive stress to the flexible board (FPC board).
4. Do not turn the variable resistor (laser power adjustment). It has already been adjusted.

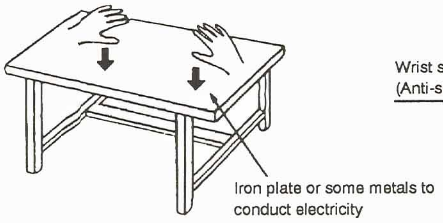


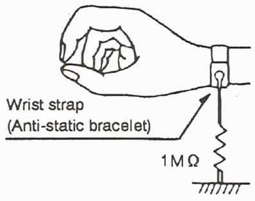
Shorting pin

• Grounding for electrostatic breakdown prevention

1. Human body grounding
   Use the anti-static wrist strap to discharge the static electricity from your body.
2. Work table grounding
   Put a conducive material (sheet) or steel sheet on the area where the traverse deck (optical pickup) is placed, and ground the sheet.

Caution:
The static electricity of your clothes will not be grounded through the wrist strap. So, take care not to let your clothes touch the traverse deck (optical pickup).


Iron plate or some metals to
conduct electricity



Precaution of Laser Diode

CAUTION: This product utilizes a laser diode with the unit turned "on", invisible laser radiation is emitted from the pick up lens.
Wave length: 780 nm
Maximum output radiation power from pick up: 100 μW/VDE

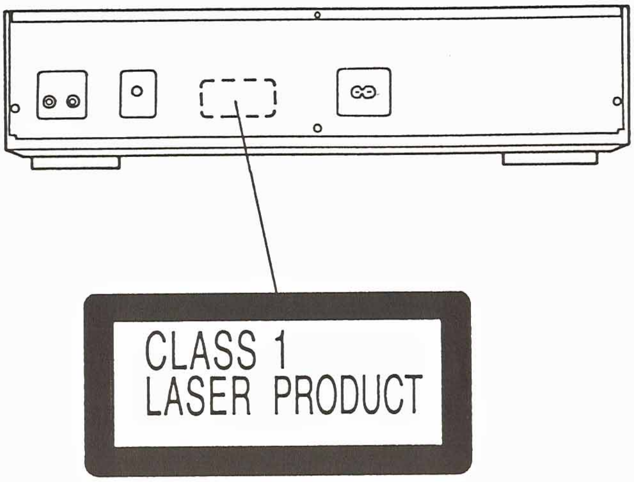
Laser radiation from the pick up unit is safety level, but be sure the followings:

1. Do not disassemble the pick up unit, since radiation from exposed laser diode is dangerous.
2. Do not adjust the variable resistor on the pick up unit. It was already adjusted.
3. Do not lock at the focus lens using optical instruments.
4. Recommend not to lock at pick up lens for a long time.

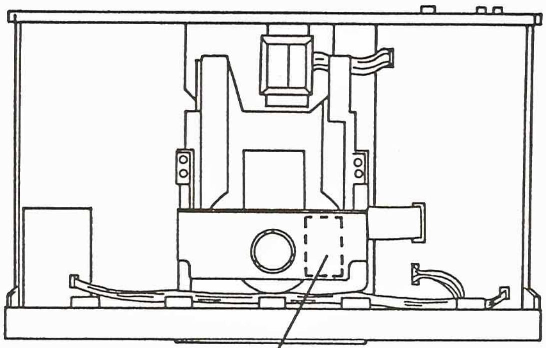
ACHTUNG: Dieses Produkt enthält eine Laserdiode. Im eingeschalteten Zustand wird unsichtbare Laserstrahlung von der Lasereinheit abgestrahlt.
Wellenlänge: 780 nm
Maximale Strahlungsleistung der Lasereinheit: 100μW/VDE

Die Strahlung an der Lasereinheit ist ungefährlich, wenn folgende Punkte beachtet werden:

1. Die Lasereinheit nicht zerlegen, da die Strahlung an der freigelegten Laserdiode gefährlich ist.
2. Den werksseitig justierten Einstellregler der Lasereinheit nicht verstellen.
3. Nicht mit optischen Instrumenten in die Fokussierlinse blicken.
4. Nicht über längere Zeit in die Fokussierlinse blicken.


CLASS 1
LASER PRODUCT

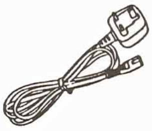
LUOKAN 1 LASERLAITE
KLASS 1 LASER APPARAT

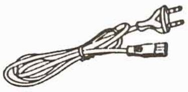


DANGER	INVISIBLE LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM.
ADVARSEL	USYNLIG LASERSTRÅLING VED ÅBNING, NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSÆTTELSE FOR STRÅLING.
VARO!	AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTÖN LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEN.
VARNING	OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN.
ADVERSEL	USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES OG SIKKERHEDSLÅS BRYTES. UNNGÅ EKSPONERING FOR STRÅLEN.
VORSICHT	UNSICHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEÖFFNET. NICHT DEM STRAHL AUSSETZEN. RQLS0101

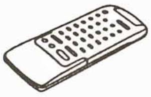
■ Accessories

AC mains lead .... 1 pc.
(For United Kingdom: RJA0044-C) (For others: RJA0043-C)

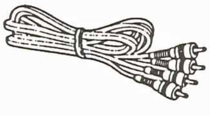




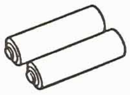
Remote control .... 1 pc.
(EUR642101)



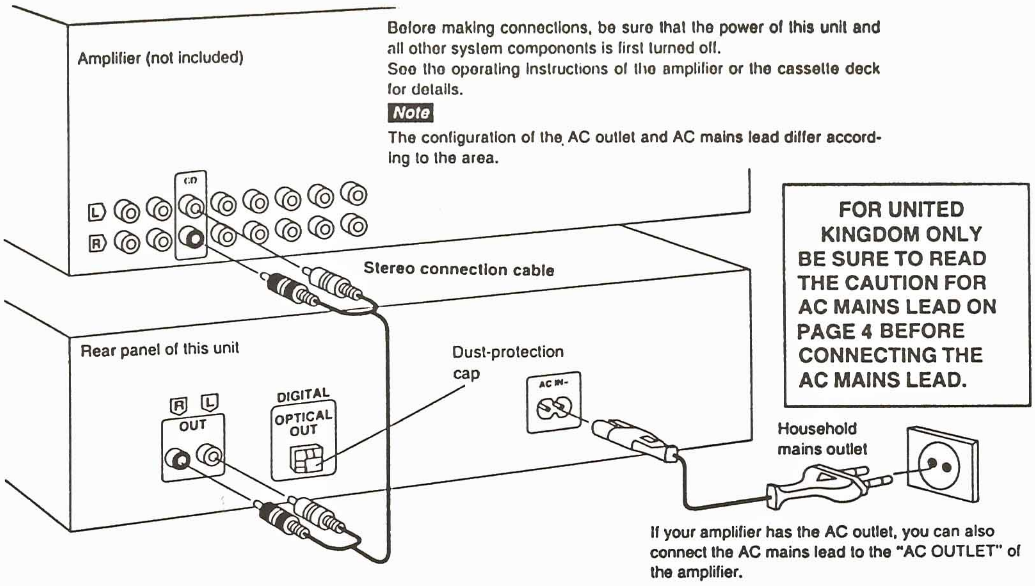
Stereo connection cable .... 1 pc.
(SJP2276)



Battery for remote control .... 2 pcs.
(UM-4, AAA, R03)



■ Connections


Amplifier (not included)
CD
L
R
Stereo connection cable
Rear panel of this unit
R L
OUT
DIGITAL
OPTICAL
OUT
Dust-protection cap
AC IN
Household mains outlet

Before making connections, be sure that the power of this unit and all other system components is first turned off.
See the operating instructions of the amplifier or the cassette deck for details.

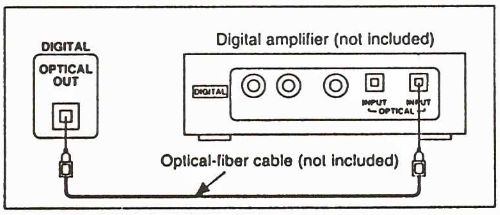
Note

The configuration of the AC outlet and AC mains lead differ according to the area.

FOR UNITED KINGDOM ONLY BE SURE TO READ THE CAUTION FOR AC MAINS LEAD ON PAGE 4 BEFORE CONNECTING THE AC MAINS LEAD.

If your amplifier has the AC outlet, you can also connect the AC mains lead to the "AC OUTLET" of the amplifier.

■ To connect the digital amplifier


DIGITAL
OPTICAL
OUT
Digital amplifier (not included)
DIGITAL
INPUT
INPUT
OPTICAL
Optical-fiber cable (not included)

Note

Remove a dust-protection cap which is inserted in DIGITAL OPTICAL OUT terminal only when you connect to the digital amplifier.
When this terminal is not being used, attach the cap as shown in the illustration above.

■Caution for AC Mains Lead (For United Kingdom)

("EB" area code model only)

For your safety, please read the following text carefully.

This appliance is supplied with a moulded three pin mains plug for your safety and convenience.
A 5-ampere fuse is fitted in this plug.
Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5-ampere and that it is approved by ASTA or BSI to BS1362.
Check for the ASTA mark ◈ or the BSI mark ♡ on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.
If you lose the fuse cover the plug must not be used until a replacement cover is obtained.
A replacement fuse cover can be purchased from your local dealer.

CAUTION!
IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY.
THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13-AMPERE SOCKET.

If a new plug is to be fitted please observe the wiring code as shown below.
If in any doubt please consult a qualified electrician.

IMPORTANT

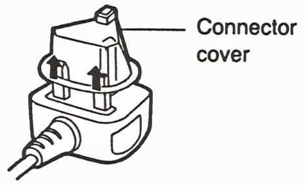
If the socket outlets in the home are not suitable for the plug supplied with this appliance it should be cut off and an appropriate three pin plug fitted.
The wires in this mains lead are coloured in accordance with the following code:

Blue:	Neutral
Brown:	Live

Do not connect either wire to the earth terminal in the plug which is marked by the letter "E" or by the safety earth symbol ⏚ or coloured green or green-and-yellow.
As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows. The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK.
The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

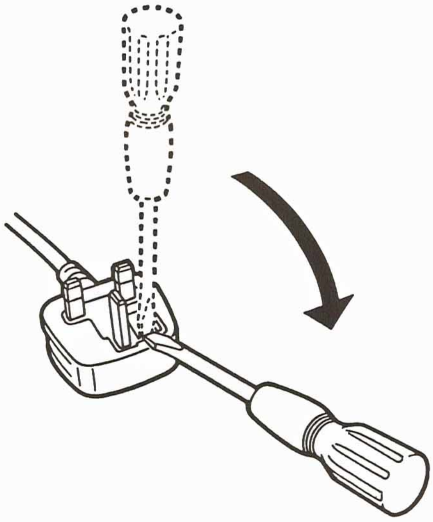
Before use

Remove the connector cover as follows.

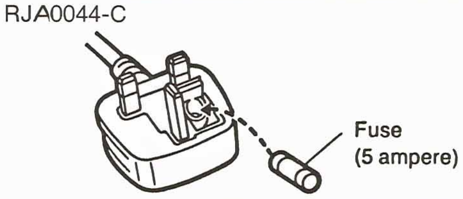


How to replace the fuse

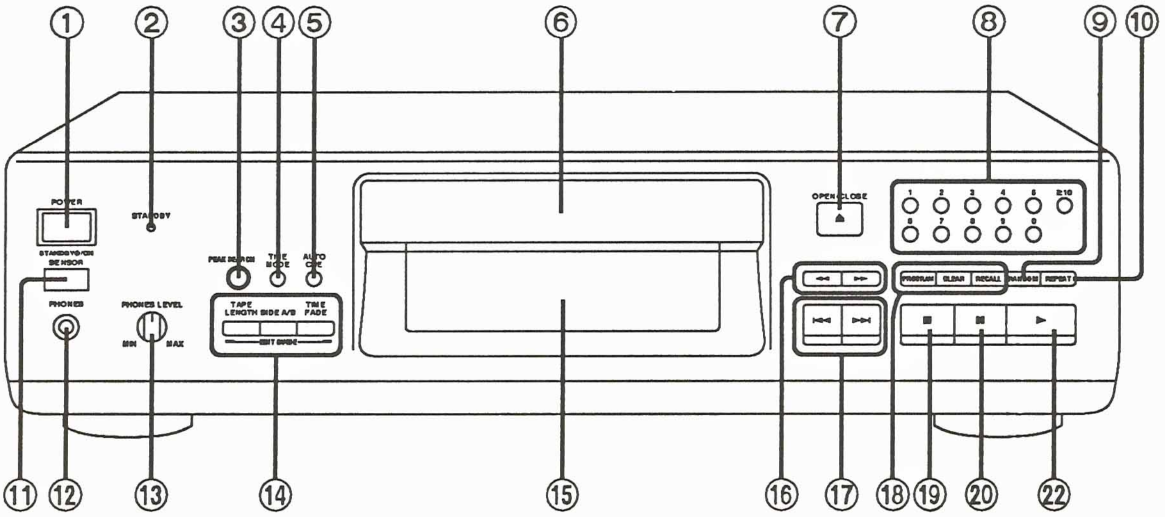
1. Open the fuse cover with a screwdriver.



2. Replace the fuse and close or attach the fuse cover.



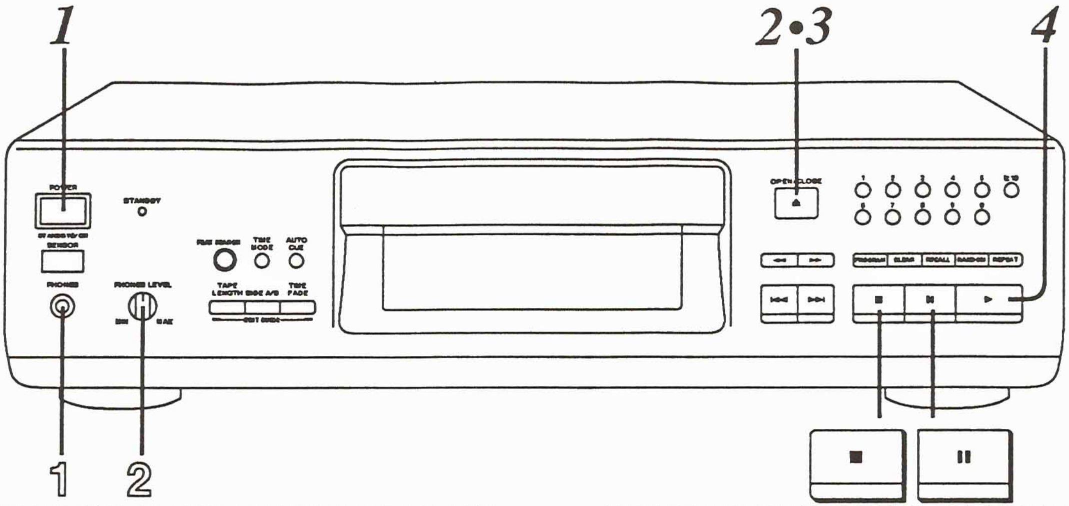
■ Location of Controls


①
②
③
④
⑤
⑥
⑦
⑧
⑨
⑩
POWER
STANDBY
STANDBY/ON
SENSOR
PHONES
PHONES LEVEL
MIN
MAX
PEAK SEARCH
TIME MODE
AUTO CUE
TAPE LENGTH
SIDE A/B
TIME FADE
EDIT GUIDE
OPEN/CLOSE
1
2
3
4
5
≥10
6
7
8
9
0
PROGRAM
CLEAR
RECALL
RANDOM
REPEAT
⑪
⑫
⑬
⑭
⑮
⑯
⑰
⑱
⑲
⑳
㉒

No.	*Name*
①	**Power "STANDBY ⏻/ON" switch (POWER, STANDBY ⏻/ON)** Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.
②	**Standby indicator (STANDBY)** When the unit is connected to the AC mains supply, this indicator lights up in standby mode and goes out when the unit is turned on.
③	**Peak search button (PEAK SEARCH)**
④	**Time mode select button (TIME MODE)**
⑤	**Auto cue button (AUTO CUE)**
⑥	**Disc tray**
⑦	**Disc tray open/close button (▲ OPEN/CLOSE)**
⑧	**Numeric buttons (1–9, 0, ≥10)**
⑨	**Random play button (RANDOM)**
⑩	**Repeat button (REPEAT)**
⑪	**Remote control signal sensor (SENSOR)**
⑫	**Headphones jack (PHONES)** (ϕ 6.3, 32 Ω)
⑬	**Headphones volume level knob (PHONES LEVEL)**

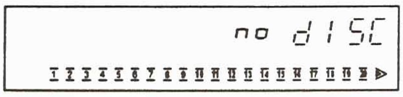
No.	*Name*
⑭	**CD edit record buttons (EDIT GUIDE)**
	●Tape length button (TAPE LENGTH)
	●Tape side select button (SIDE A/B)
	●Time fade button (TIME FADE)
⑮	**Display panel**
⑯	**Search buttons (◀◀, ▶▶)**
⑰	**Skip buttons (⏮, ⏭)**
⑱	**Program play buttons**
	●Program button (PROGRAM)
	●Clear button (CLEAR)
	●Recall button (RECALL)
⑲	**Stop button (■)**
⑳	**Pause button (❚❚)**
㉒	**Play button (▶)**

■ Basic Operating Procedure


1
2•3
4
POWER
STANDBY
PHONES
PHONES LEVEL
OPEN/CLOSE
1
2
■
II

1
POWER
STANDBY/ON

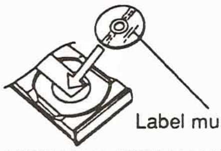
Press POWER (Power goes on).



- This indicates that a CD has not been installed.
- If a CD is already in the disc tray, it automatically begins playing from the first track.

2

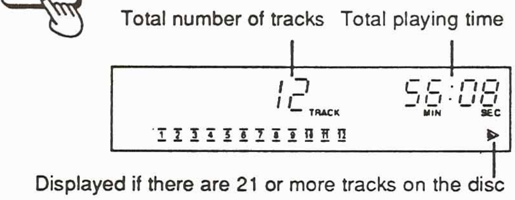
Press ▲ OPEN/CLOSE to open the tray and insert a disc.



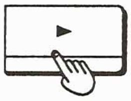
Label must face upward.

3

Press ▲ OPEN/CLOSE to close the tray.

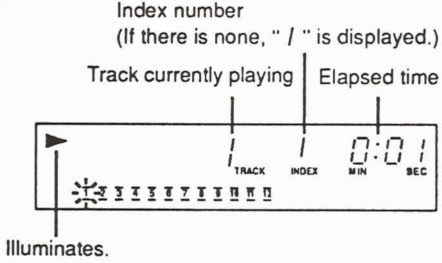

Total number of tracks
Total playing time
12 TRACK
55:08 MIN SEC

Displayed if there are 21 or more tracks on the disc

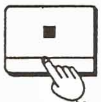
4 

Press ▶ (Play begins).

Play stops automatically after all tracks have been played.


Index number
(If there is none, " / " is displayed.)
Track currently playing
Elapsed time
1 TRACK
1 INDEX
0:01 MIN SEC
Illuminates.

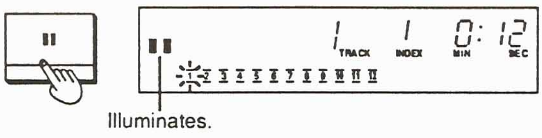
To stop the disc play:



Press ■.

To temporarily stop the disc play:

Press II.


1 TRACK
1 INDEX
0:12 MIN SEC
Illuminates.

To continue playback, press ▶.

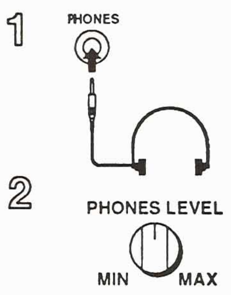
Notes

- The displayed total playing time includes the time between tracks. For this reason, the time may be several seconds longer than that which appears on song cards and the like.
- When you use the timer with other unit, be sure to turn this unit on.

For your reference:

- If you skip step 3 and press ▶, the tray automatically closes and play begins from the first track.

To listen with headphones


1
PHONES
2
PHONES LEVEL
MIN
MAX

1 **Connect headphones (not included).**

- Lower the volume before connecting.
- Plug type: Large stereo type

2 **Adjust the volume with the PHONES LEVEL.**

To make louder: Turn toward the right.
To make lower: Turn toward the left.

Note

Avoid listening for prolonged periods of time to prevent hearing damage.

■ Operation Check and Main Component Replacement Procedures

Warning: This product uses a laser diode. Refer to caution statements on page 2.
ACHTUNG: Die Lasereinheit nicht zerlegen.
Die Lasereinheit darf nur gegen eine vom Hersteller spezifizierte Einheit ausgetauscht werden.
"ATTENTION SERVICER" Some chassis components may have sharp edges. Be careful when disassembling and servicing.

NOTE

1. **This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.**
2. **For reassembly after operation checks or replacement, reverse the respective procedures. Special reassembly procedures are described only when required.**
3. **Select items from the following index when checks or replacement are required.**
4. **Illustrated screws are equivalent to actual size.**
5. **Refer the parts No. on the page of "Main Component Replacement Procedures", if necessary.**

● Contents

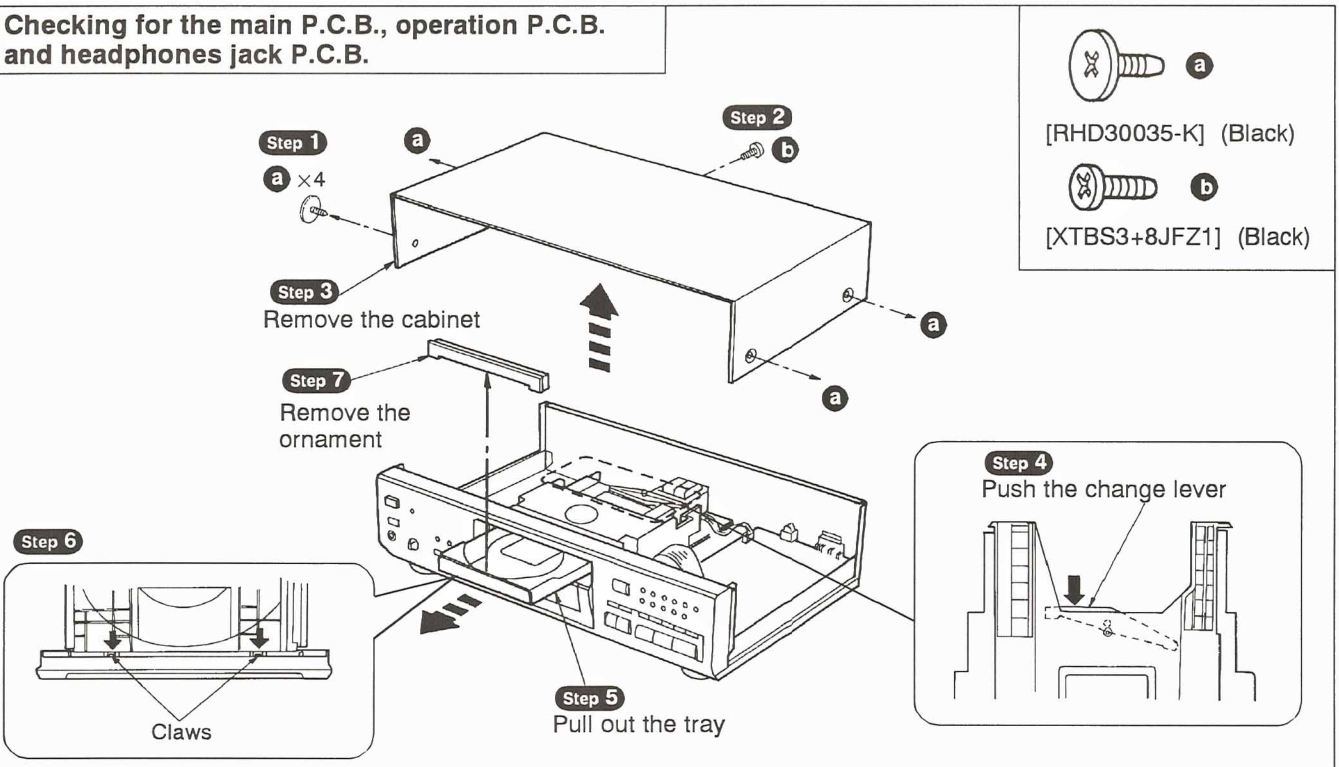
Page

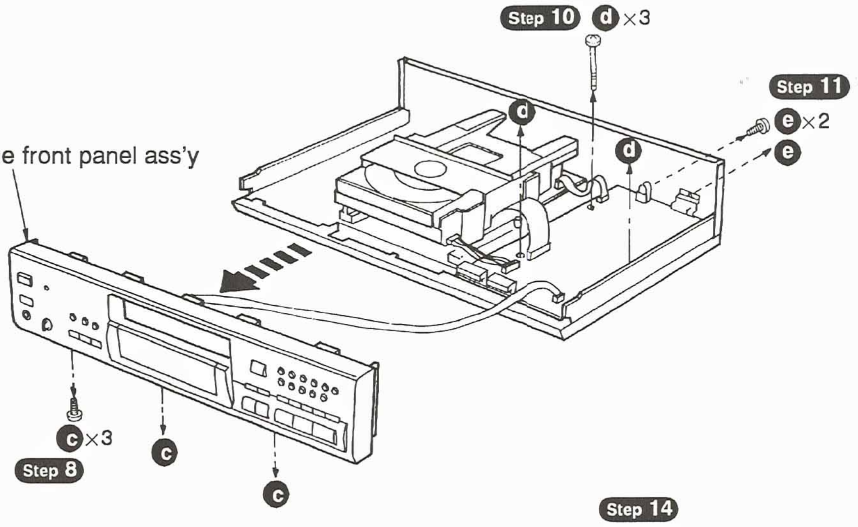
● **Checking Procedure for each P.C.B.**
1.Checking for the main P.C.B., operation P.C.B. and headphones jack P.C.B. 7
2. Checking for the servo P.C.B. 9

● **Main Component Replacement Procedures**
1. Replacement for the traverse unit ass'y 10
2. Replacement for the loading belt and loading motor 13

■ Checking Procedure for each P.C.B.

1. Checking for the main P.C.B., operation P.C.B. and headphones jack P.C.B.


a
[RHD30035-K] (Black)
b
[XTBS3+8JFZ1] (Black)
Step 1
a ×4
a
Step 2
b
Step 3
Remove the cabinet
a
a
Step 7
Remove the the ornament
Step 4
Push the change lever
Step 6
Claws
Step 5
Pull out the tray



Step 10 d ×3

Step 11 e ×2

Step 9 Remove the front panel ass'y

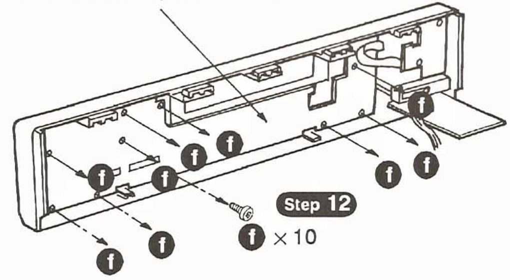
c ×3

Step 8

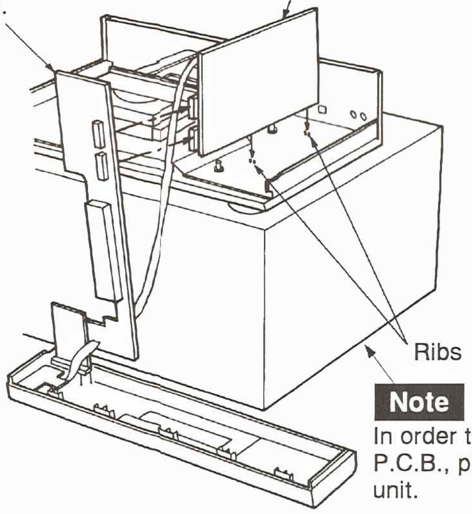
Step 14
Remove the main P.C.B. and then align it with the rib of bottom chassis.

Step 15
Reinstall the operation P.C.B. to the main P.C.B.

Step 13
Remove the operation P.C.B.

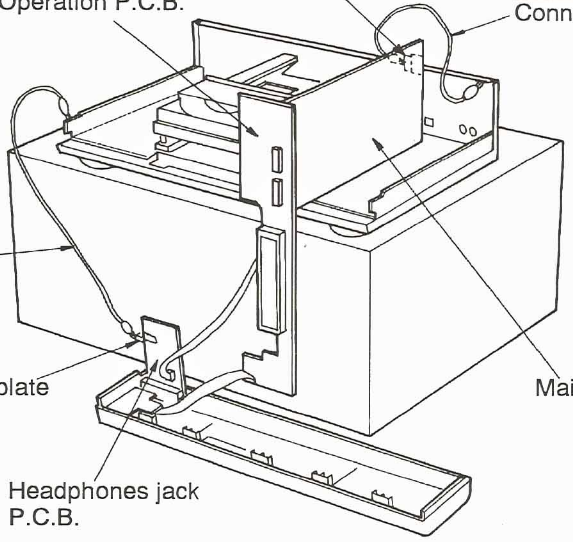


Step 12 f × 10



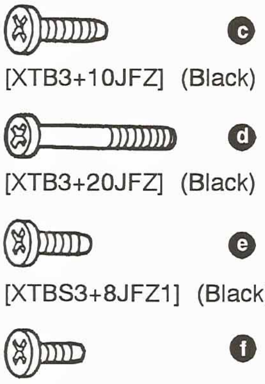
Note
In order to stand the operation P.C.B., place a box under the unit.

- Check the main P.C.B., operation P.C.B. and headphones jack P.C.B. as shown below.


GND terminal
Operation P.C.B.
Earth plate
Main P.C.B.
Headphones jack
P.C.B.

Step 16
Connect the lead wire.

Step 17
Connect the lead wire.



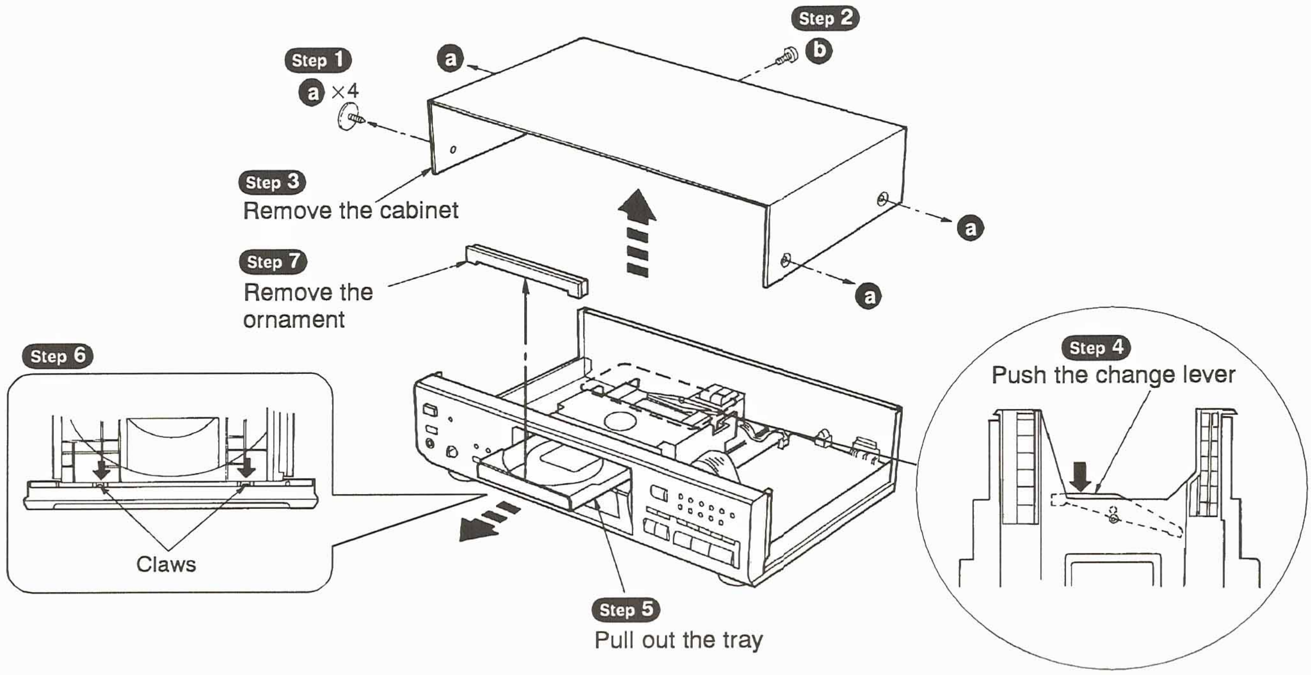
[XTB3+10JFZ] (Black)

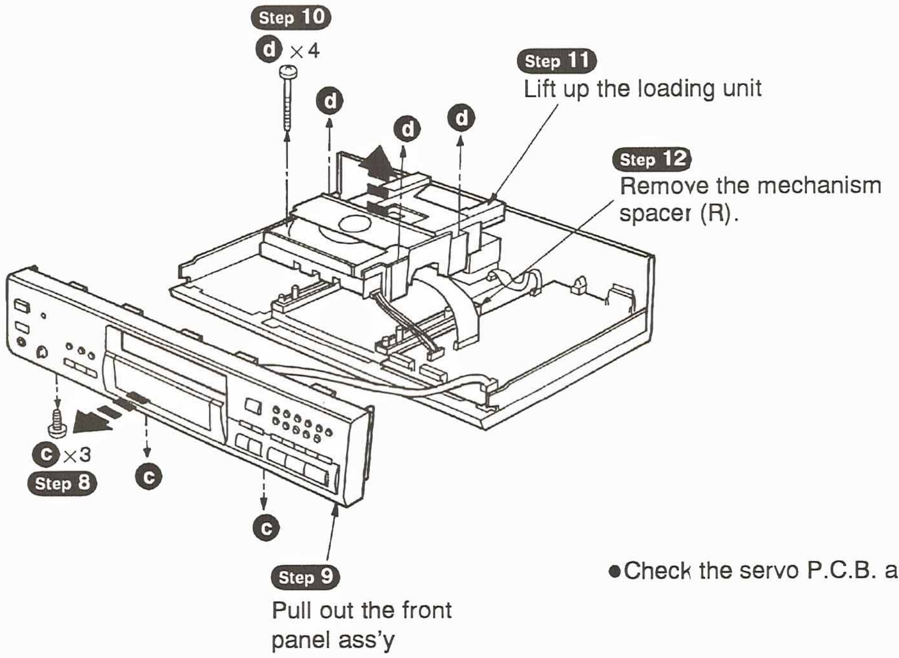
[XTB3+20JFZ] (Black)

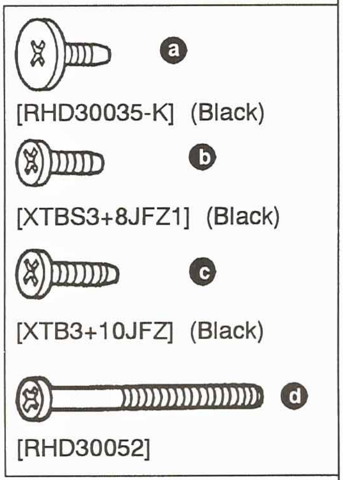
[XTBS3+8JFZ1] (Black)

[RHD26021]

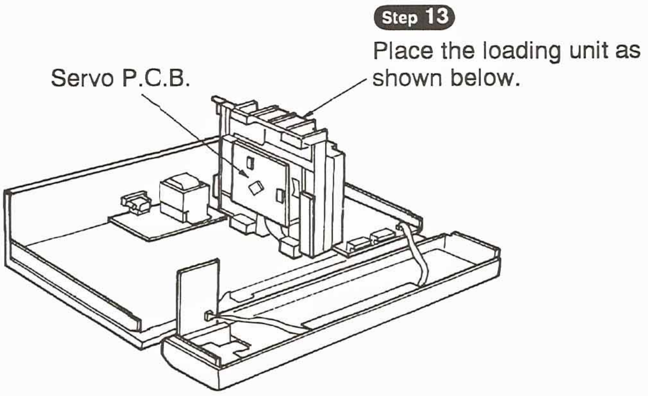
2. Checking for the servo P.C.B.


Step 1
a ×4
a
Step 2
b
Step 3
Remove the cabinet
a
a
Step 7
Remove the ornament
Step 6
Claws
Step 4
Push the change lever
Step 5
Pull out the tray


Step 10
d ×4
d
d
d
Step 11
Lift up the loading unit
Step 12
Remove the mechanism spacer (R).
c ×3
Step 8
c
c
Step 9
Pull out the front panel ass'y


a
[RHD30035-K] (Black)
b
[XTBS3+8JFZ1] (Black)
c
[XTB3+10JFZ] (Black)
d
[RHD30052]

●Check the servo P.C.B. as shown below.


Step 13
Place the loading unit as shown below.
Servo P.C.B.

■ Main Component Replacement Procedures

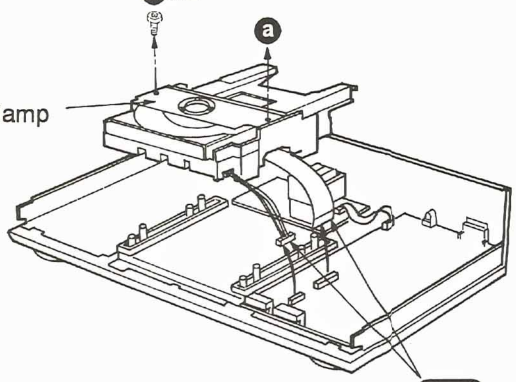
1. Replacement for the traverse unit ass'y

[XTB3+8JFZ] (Black)

[XTBS26+8J]

- Follow the **Step 1** ~ **Step 11** of item 2 in checking procedure for each P.C.B. on page 9.

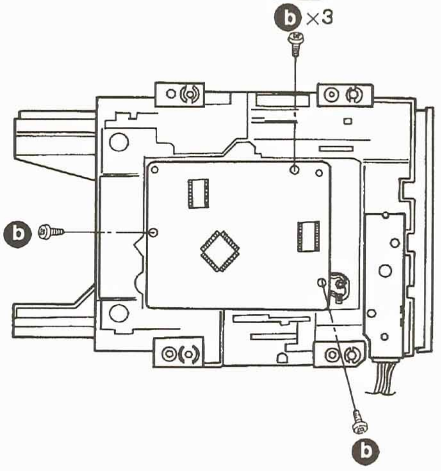
Step 2
ⓐ×2



Step 3
Remove the clamp base ass'y.

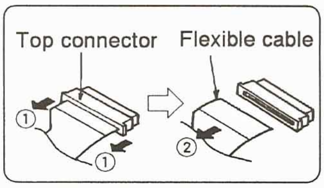
Step 1
Remove the connector and FPC.

Step 4
ⓑ×3



■Removal of the flexible cable

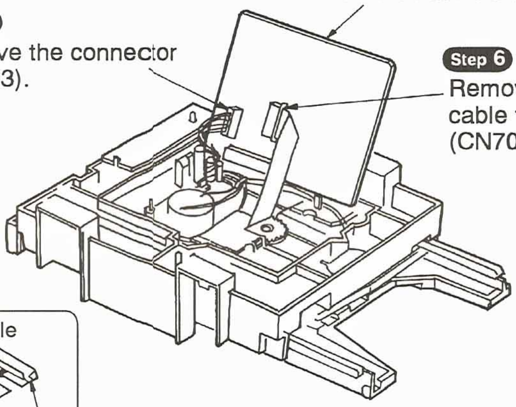
- Push the top of the connector in the direction of arrow ①, and then pull out the flexible cable in the direction of arrow ②.



Step 7
Remove the servo P.C.B.

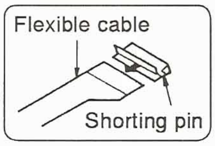
Step 5
Remove the connector (CN703).

Step 6
Remove the flexible cable from connector (CN701).

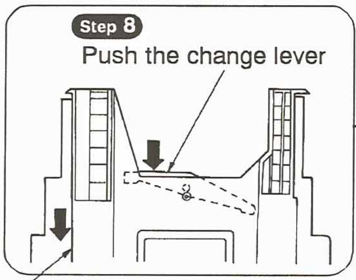


Note

Insert a shorting pin into the traverse unit flexible cable. (Refer to Handling Precautions for Traverse Deck on page 2.)

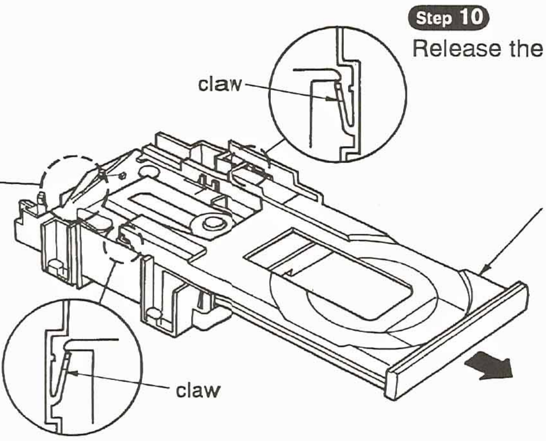


Step 8
Push the change lever

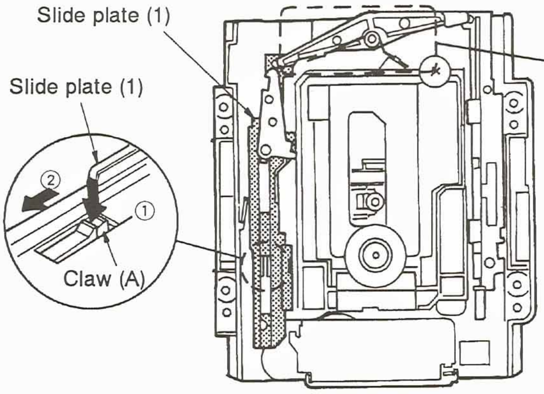


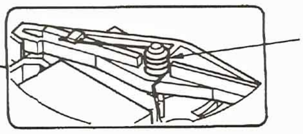
Step 9
Push the disc tray.

Step 10
Release the 2 claws.



Step 11
Pull out the disc tray.


Slide plate (1)
Slide plate (1)
②
①
Claw (A)

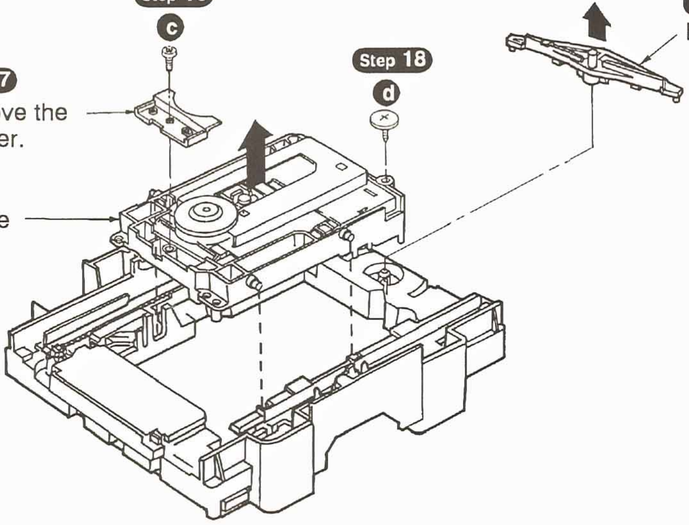


Step 12 Remove the spring.

Step 13
Push the claw (A) in the direction of arrow ①, and then move the slide plate (1) in the direction of arrow ②.

Note

Be careful not to damage the claw (A) because the claw (A) is breakable.



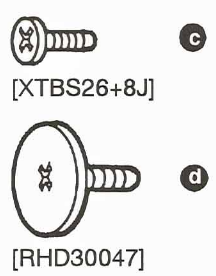
Step 16

Step 17 Remove the stopper.

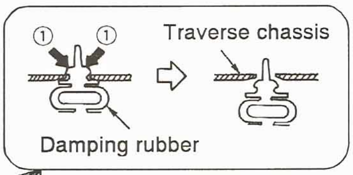
Step 18

Step 15 Remove the traverse unit ass'y.

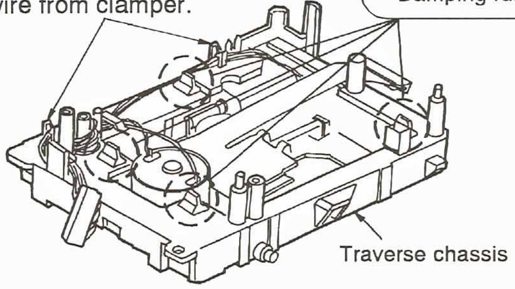
Step 14 Remove the change lever.

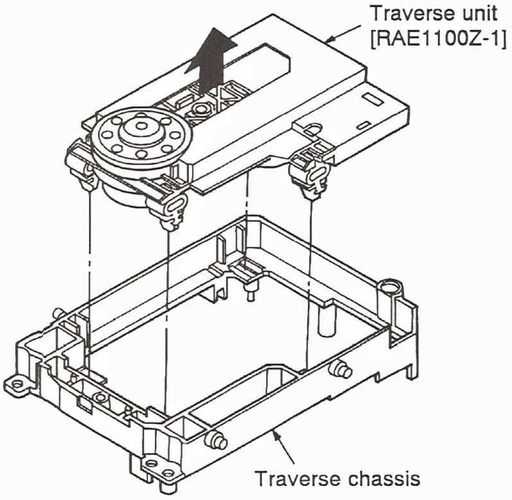

c
[XTBS26+8J]
d
[RHD30047]

Step 20
Remove the damping rubber from traverse chassis.


① ①
Traverse chassis
Damping rubber

Step 19
Remove the lead wire from clamper.

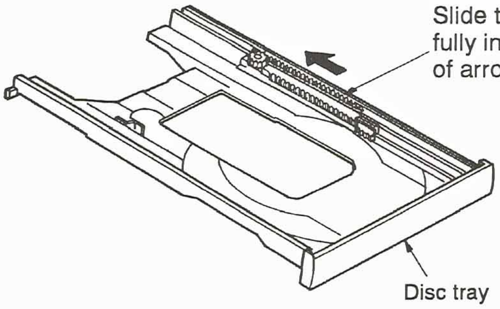

Traverse chassis


Traverse unit
[RAE1100Z-1]
Traverse chassis

Installation of the disc tray after replacement

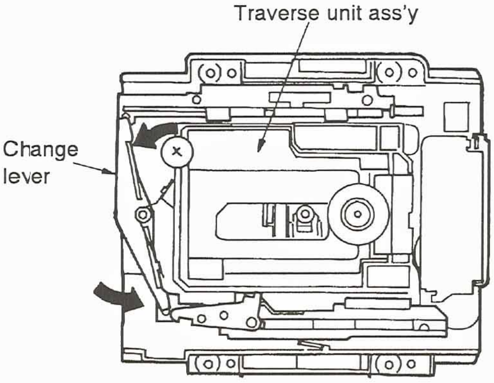
Step 1

Slide the drive rack fully in the direction of arrow.



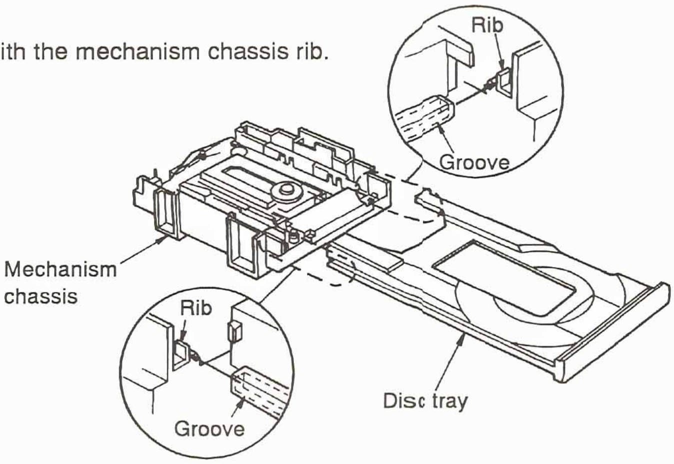
Step 2

Slide the change lever, and then leave the traverse unit ass'y falling.


Traverse unit ass'y
Change lever

Step 3

Align the disc tray grove with the mechanism chassis rib.

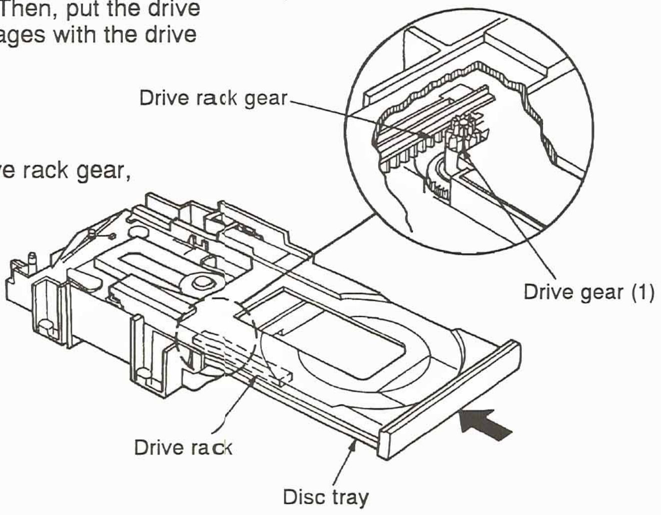

Rib
Groove
Mechanism chassis
Rib
Groove
Disc tray

Step 4

Slide the disc tray in the direction of arrow. Then, put the drive rack manually so that the drive gear (1) engages with the drive rack gear.

Step 5

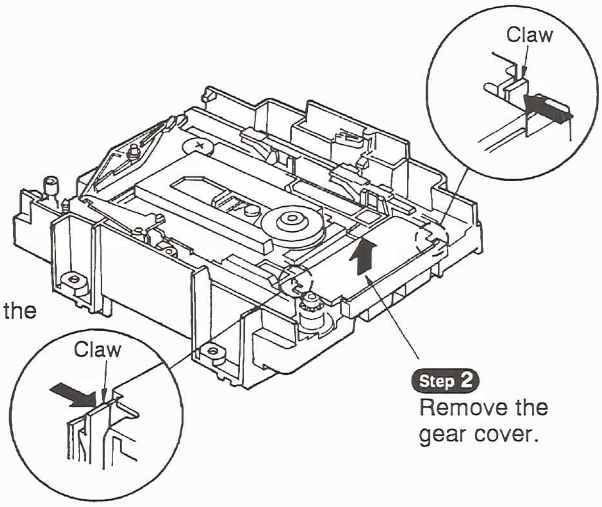
After the drive gear (1) engaged with the drive rack gear, slide the disc tray.


Drive rack gear
Drive gear (1)
Drive rack
Disc tray

2. Replacement for the loading belt and loading motor

[XYN2+F6FZ]

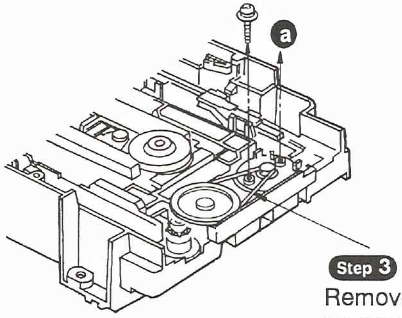
- Follow the **Step 1** ~ **Step 11** of item 2 in checking procedure for each P.C.B. on page 9.
- Follow the **Step 1** ~ **Step 7** of item 1 in main component replacement procedures on page 10.



Step 1
Release the 2 claws.

Step 2
Remove the gear cover.

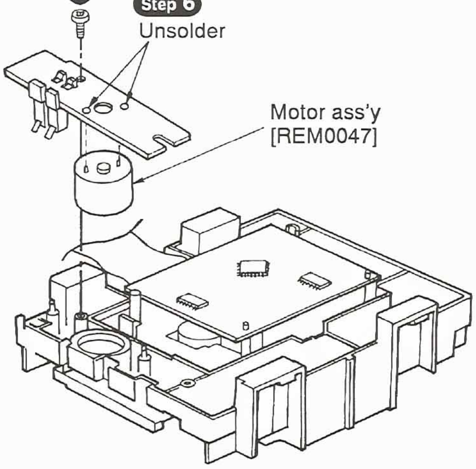
Step 4
a ×2



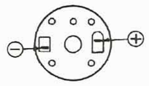
Step 3
Remove the belt [RMG0158]

Step 5
b

Step 6
Unsolder



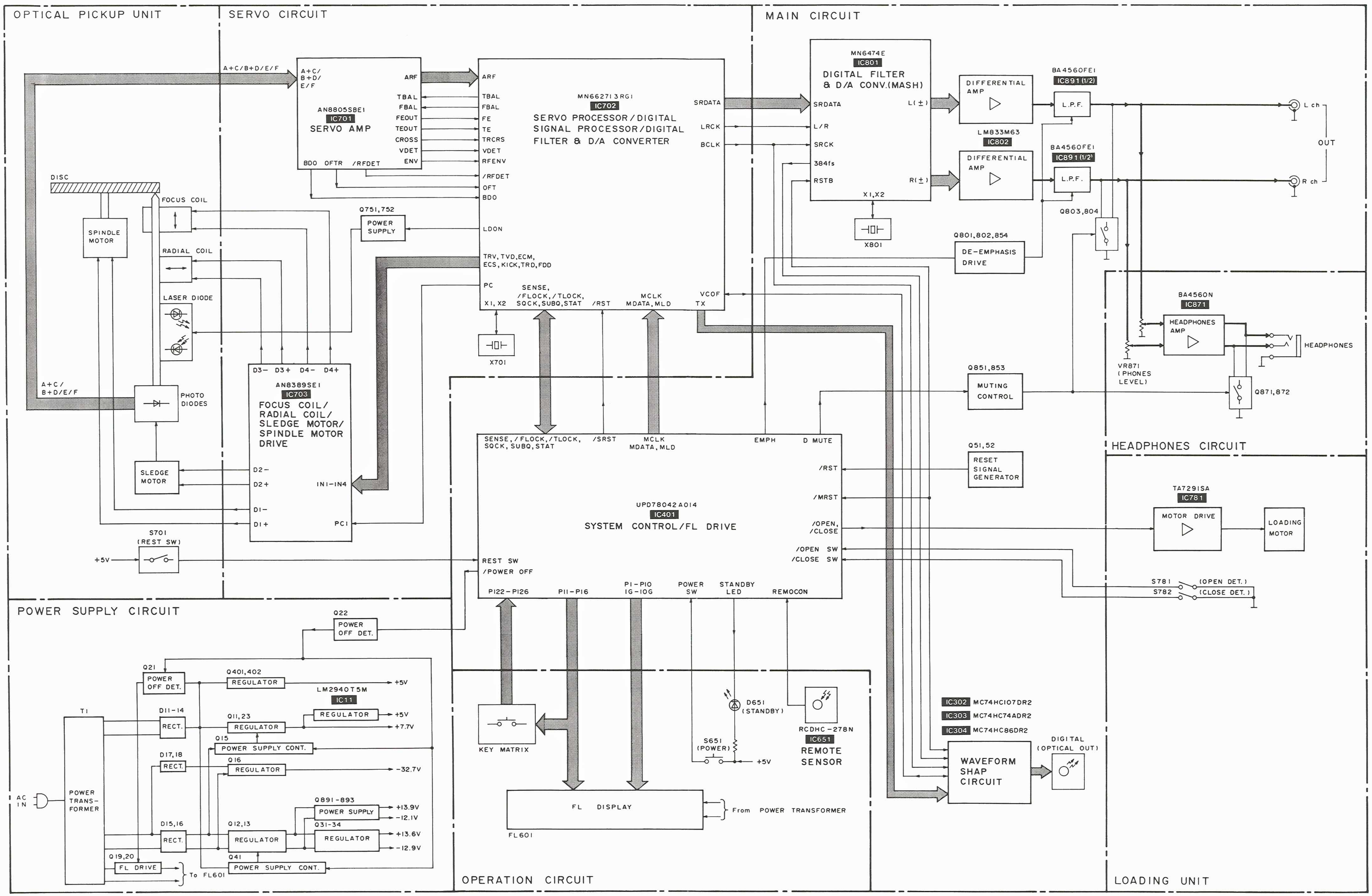
Polarity of motor ass'y terminals



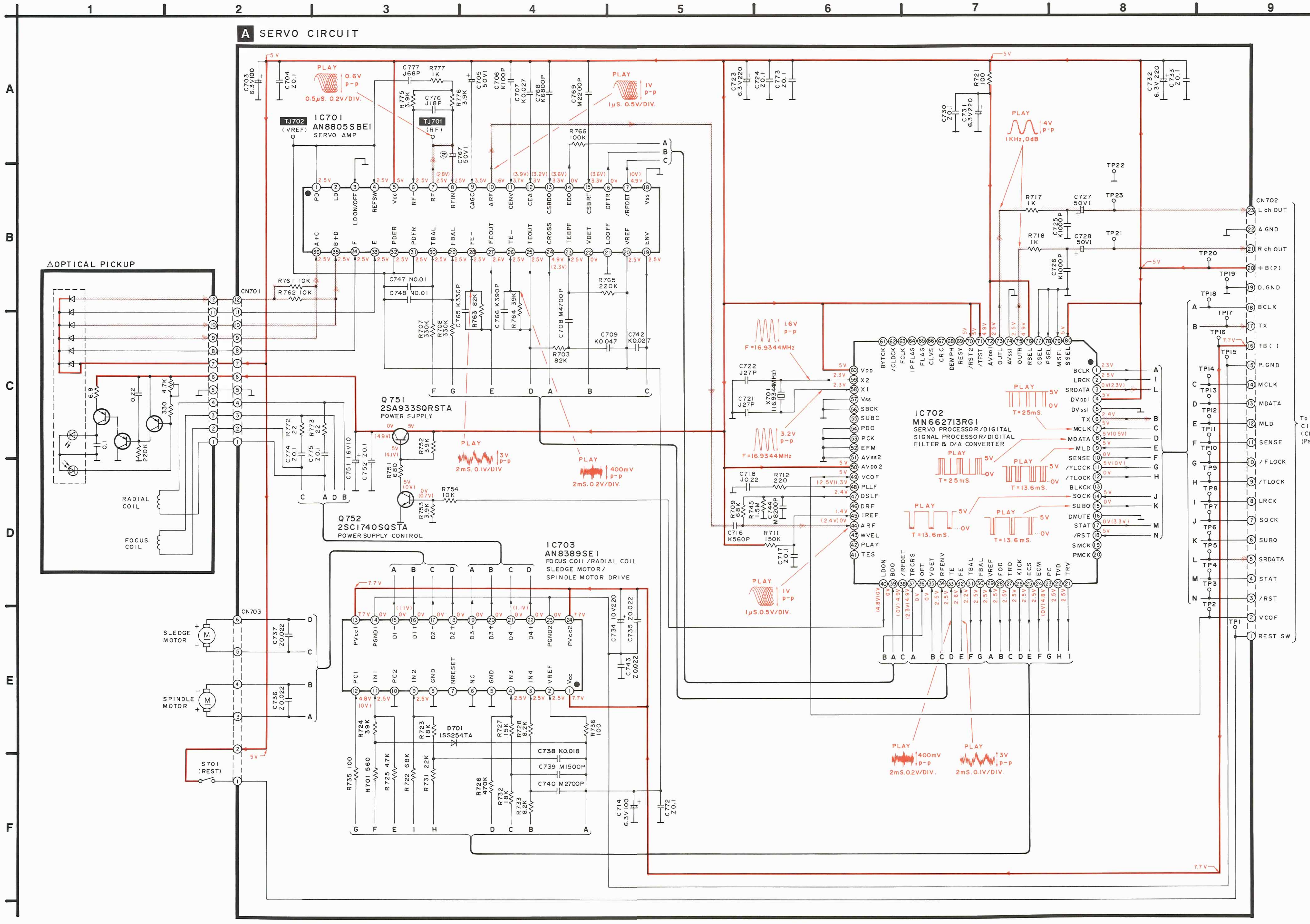
[XTBS26+8J]

■ Block Diagram

Note: ─▶─ AUDIO SIGNAL


OPTICAL PICKUP UNIT
SERVO CIRCUIT
MAIN CIRCUIT
A+C/B+D/E/F
A+C/ B+D/ E/F
ARF
AN8805SBE1
IC701
SERVO AMP
TBAL
FBAL
FEOUT
TEOUT
CROSS
VDET
ENV
BDO
OFTR
/RFDET
MN662713RGI
IC702
SERVO PROCESSOR/DIGITAL SIGNAL PROCESSOR/DIGITAL FILTER & D/A CONVERTER
ARF
TBAL
FBAL
FE
TE
TRCRS
VDET
RFENV
/RFDET
OFT
BDO
LDON
TRV, TVD, ECM, ECS, KICK, TRD, FDD
PC
X1, X2
SENSE, /FLOCK, /TLOCK, SOCK, SUBQ, STAT
/RST
MCLK MDATA, MLD
VCOF
TX
SRDATA
LRCK
BCLK
X701
Q751,752
POWER SUPPLY
DISC
FOCUS COIL
SPINDLE MOTOR
RADIAL COIL
LASER DIODE
A+C/ B+D/E/F
PHOTO DIODES
SLEDGE MOTOR
D3− D3+ D4− D4+
AN8389SE1
IC703
FOCUS COIL/ RADIAL COIL/ SLEDGE MOTOR/ SPINDLE MOTOR DRIVE
D2−
D2+
IN1−IN4
D1−
D1+
PC1
S701 (REST SW)
+5V
MN6474E
IC801
DIGITAL FILTER & D/A CONV.(MASH)
SRDATA
L/R
SRCK
384fs
RSTB
L(±)
R(±)
X1,X2
X801
DIFFERENTIAL AMP
LM833M63
IC802
DIFFERENTIAL AMP
BA4560FE1
IC891(1/2)
L.P.F.
BA4560FE1
IC891(1/2)
L.P.F.
L ch
R ch
OUT
Q803,804
Q801,802,854
DE-EMPHASIS DRIVE
BA4560N
IC871
HEADPHONES AMP
HEADPHONES
VR871 (PHONES LEVEL)
Q871,872
Q851,853
MUTING CONTROL
HEADPHONES CIRCUIT
Q51,52
RESET SIGNAL GENERATOR
SENSE, /FLOCK, /TLOCK, SOCK, SUBQ, STAT
/SRST
MCLK MDATA, MLD
EMPH
D MUTE
/RST
/MRST
UPD78042A014
IC401
SYSTEM CONTROL/FL DRIVE
/OPEN, /CLOSE
/OPEN SW
/CLOSE SW
REST SW
/POWER OFF
P122−P126
P11−P16
P1−P10 1G−10G
POWER SW
STANDBY LED
REMOCON
TA7291SA
IC781
MOTOR DRIVE
LOADING MOTOR
S781 (OPEN DET.)
S782 (CLOSE DET.)
POWER SUPPLY CIRCUIT
Q22
POWER OFF DET.
Q21
POWER OFF DET.
Q401,402
REGULATOR
+5V
LM2940T5M
IC11
REGULATOR
+5V
+7.7V
T1
D11−14
RECT.
Q11,23
REGULATOR
Q15
POWER SUPPLY CONT.
D17,18
RECT.
Q16
REGULATOR
−32.7V
Q891−893
POWER SUPPLY
+13.9V
−12.1V
Q31−34
REGULATOR
+13.6V
−12.9V
AC IN
POWER TRANS-FORMER
D15,16
RECT.
Q12,13
REGULATOR
Q19,20
FL DRIVE
To FL601
Q41
POWER SUPPLY CONT.
KEY MATRIX
D651 (STANDBY)
S651 (POWER)
+5V
RCDHC−278N
IC651
REMOTE SENSOR
FL DISPLAY
FL601
From POWER TRANSFORMER
OPERATION CIRCUIT
IC302 MC74HC107DR2
IC303 MC74HC74ADR2
IC304 MC74HC86DR2
WAVEFORM SHAP CIRCUIT
DIGITAL (OPTICAL OUT)
LOADING UNIT

■ Schematic Diagram ● Optical Pickup/Servo circuit (Parts list on Pages 34～37)


1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
A SERVO CIRCUIT
△OPTICAL PICKUP
RADIAL COIL
FOCUS COIL
CN701
CN702
CN703
IC701 AN8805SBEI SERVO AMP
TJ702 (VREF)
TJ701 (RF)
IC702 MN662713RGI SERVO PROCESSOR/DIGITAL SIGNAL PROCESSOR/DIGITAL FILTER & D/A CONVERTER
IC703 AN8389SEI FOCUS COIL/RADIAL COIL SLEDGE MOTOR/SPINDLE MOTOR DRIVE
Q751 2SA933SQRSTA POWER SUPPLY
Q752 2SC1740SQSTA POWER SUPPLY CONTROL
D701 1SS254TA
X701 (16.9344MHz)
SLEDGE MOTOR
SPINDLE MOTOR
S701 (REST)
PLAY
F=16.9344MHz
T=25mS
T=13.6mS
To E MAIN CIRCUIT (CN401) (Page 19)
L ch OUT
A.GND
R ch OUT
+B(2)
D.GND
BCLK
TX
TB(1)
P.GND
MCLK
MDATA
MLD
SENSE
/FLOCK
/TLOCK
LRCK
SQCK
SUBQ
SRDATA
STAT
/RST
VCOF
REST SW

- This schematic diagram may be modified at any time with the development of new technology.

Notes:

- **S601** : Numeric (8) switch
- **S602** : Numeric (3) switch
- **S603** : Recall switch (RECALL)
- **S604** : F. Skip switch (▶▶❙)
- **S605** : Stop switch (■)
- **S606** : Numeric (9) switch
- **S607** : Numeric (4) switch
- **S608** : Random play switch (RANDOM)
- **S609** : R. Skip switch (❙◀◀)
- **S610** : Pause switch (❙❙)
- **S611** : Numeric (0) switch
- **S612** : Numeric (5) switch
- **S613** : Repeat switch (REPEAT)
- **S614** : R. Search switch (◀◀)
- **S615** : F. Search switch (▶▶)
- **S616** : Numeric (6) switch
- **S617** : Numeric (1) switch
- **S618** : Program switch (PROGRAM)
- **S619** : Time fade switch (TIME FADE)
- **S620** : Auto cue switch (AUTO CUE)
- **S621** : Numeric (7) switch
- **S622** : Numeric (2) switch
- **S623** : Clear switch (CLEAR)
- **S624** : Tape-side select switch (SIDE A/B)
- **S625** : Time mode select switch (TIME MODE)
- **S626** : Disc tray open/close switch (⏏ OPEN/CLOSE)
- **S627** : Numeric (≥10) switch
- **S628** : Play switch (▶)
- **S629** : Edit tape length switch (TAPE LENGTH)
- **S630** : Peak level search switch (PEAK SEARCH)
- **S651** : Power **“STANDBY ⏻ /ON”** switch (POWER)
- **S701** : Reset switch
- **S781** : Disc tray open detection switch
- **S782** : Disc tray close detection switch
- Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.

No mark : CD STOP
(   ) : CD PLAY [1kHz, L + R, 0 dB]

- Important safety notice:
  Components identified by ⚠ mark have special characteristics important for safety.
  Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used. When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

- **Caution!**
  IC and LSI are sensitive to static electricity.
  Secondary trouble can be prevented by taking care during repair.
  Cover the parts boxes made of plastics with aluminum foil.
  Ground the soldering iron.
  Put a conductive mat on the work table.
  Do not touch the legs of IC or LSI with the fingers directly.

- **Voltage and signal line**
  ━━▶━━ : Positive voltage line
  ╍╍▶╍╍ : Negative voltage line
  ░░▶░░ : CD signal Line

- The supply part number is described alone in the replacement parts list.

Part No.	Production Part No.	Supply Part No.
IC11	LM2940T5M	LM2940T5

● Power Switch / Loading Motor / Operation / Power Supply / Headphones Jack / Main circuit

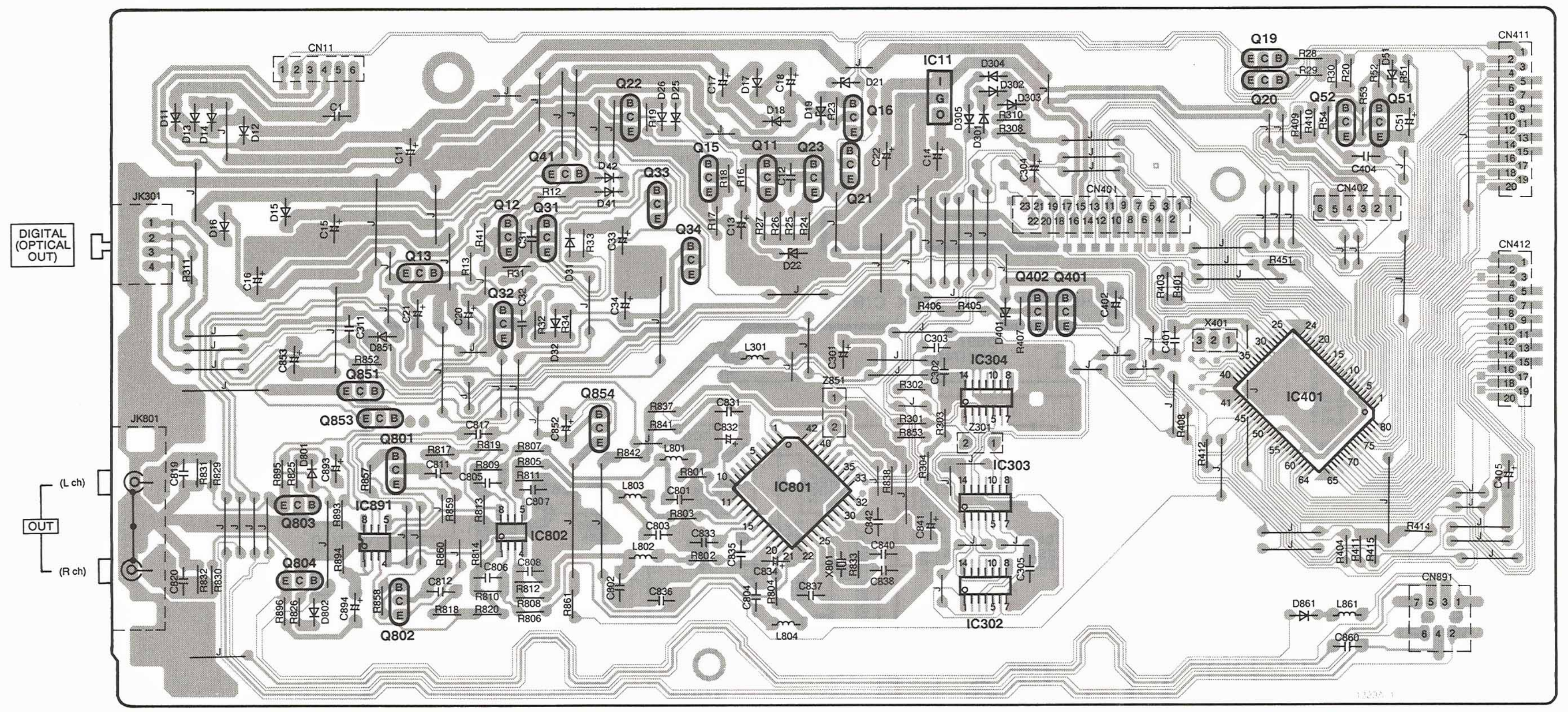
(Parts list on Pages 34~37)

B REMOTE SENSOR /POWER SWITCH CIRCUIT
IC651 RCDHC-278N REMOTE SENSOR
D LOADING MOTOR CIRCUIT
IC781 TA7291SA MOTOR DRIVE
LOADING MOTOR
S782 (CLOSE DET.)
S781 (OPEN DET.)
C OPERATION CIRCUIT
FL601(RSL0188-F)
FL DISPLAY
S601 (8)
S602 (3)
S603 (RECALL)
S604 (▶▶|)
S605 (■)
S606 (9)
S607 (4)
S608 (RANDOM)
S609 (|◀◀)
S610 (▶)
S611 (0)
S612 (5)
S613 (REPEAT)
S614 (◀◀)
S615 (▶▶)
S616 (6)
S617 (1)
S618 (PROGRAM)
S619 (TIME FADE)
S620 (AUTO CUE)
S626 (≜ OPEN/ /CLOSE)
S627 (2)(10)
S628 (▶)
S629 (TAPE LENGTH)
S630 (PEAK SEARCH)
S621 (7)
S622 (2)
S623 (CLEAR)
S624 (SIDE A/B)
S625 (TIME MODE)
E MAIN CIRCUIT
To A SERVO CIRCUIT (CN7021) (Page 17)
IC304 MC74HC86DR2 OR GATE
IC303 MC74HC74ADR2 D FLIP-FLOP
IC302 MC74HC107DR2 J-K FLIP-FLOP
IC401 UPD78042A014 SYSTEM CONTROL/ FL DRIVE
X401 (4.23MHz)
Q51,52 2SC1740SQSTA RESET
Q401,402 2SD1862QSTV6 REGULATOR
IC11 LM2940T5M REGULATOR
Q11,23 2SD2037EFTA REGULATOR
Q16 2SB1238QSTV6 REGULATOR
Q15 2SA933SQRSTA POWER SUPPLY CONTROL
Q22 2SC1740SQSTA POWER OFF DET.
Q12 2SB1240QSTV6 POWER SUPPLY
Q21 DTA124ESTP POWER OFF DET.
Q19,20 2SD1450RSTTA FL DRIVE
Q31 2SD1862QSTV6 REGULATOR
Q33 2SC1740SQSTA REGULATOR
Q34 2SA933SQRSTA REGULATOR
Q32 2SB1240QSTV6 REGULATOR
Q13 2SD1862QSTV6 POWER SUPPLY
Q41 DTA124ESTP POWER SUPPLY CONT.
Q851 DTC124ESTP MUTING CONT.
Q853 DTA114ESTP MUTING CONT.
Q854 DTA124ESTP DE-EMPHASIS DRIVE
IC801 MN6474E DIGITAL FILTER & D/A CONV. (MASH)
IC802 LM833M63 DIFFERENTIAL AMP
IC891 BA4560FEI L.P.FILTER AMP
Q801,802 2SC1740SQSTA DE-EMPHASIS DRIVE
Q803,804 2SD1450RSTTA MUTING
JK301 DIGITAL (OPTICAL OUT)
JK801 L ch R ch OUT
F POWER SUPPLY CIRCUIT
T1
AC IN (230 – 240V) (50/60Hz)
G HEADPHONES JACK CIRCUIT
Q891 2SC1740SQSTA POWER SUPPLY
IC871 BA4560N HEADPHONES AMP
Q871,872 2SD1450RSTTA MUTING
Q893 2SA933SQRSTA STABILIZER
Q892 2SA933SQRSTA POWER SUPPLY
JK871 HEADPHONES
VR871 (PHONES LEVEL)
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
A B C D E F

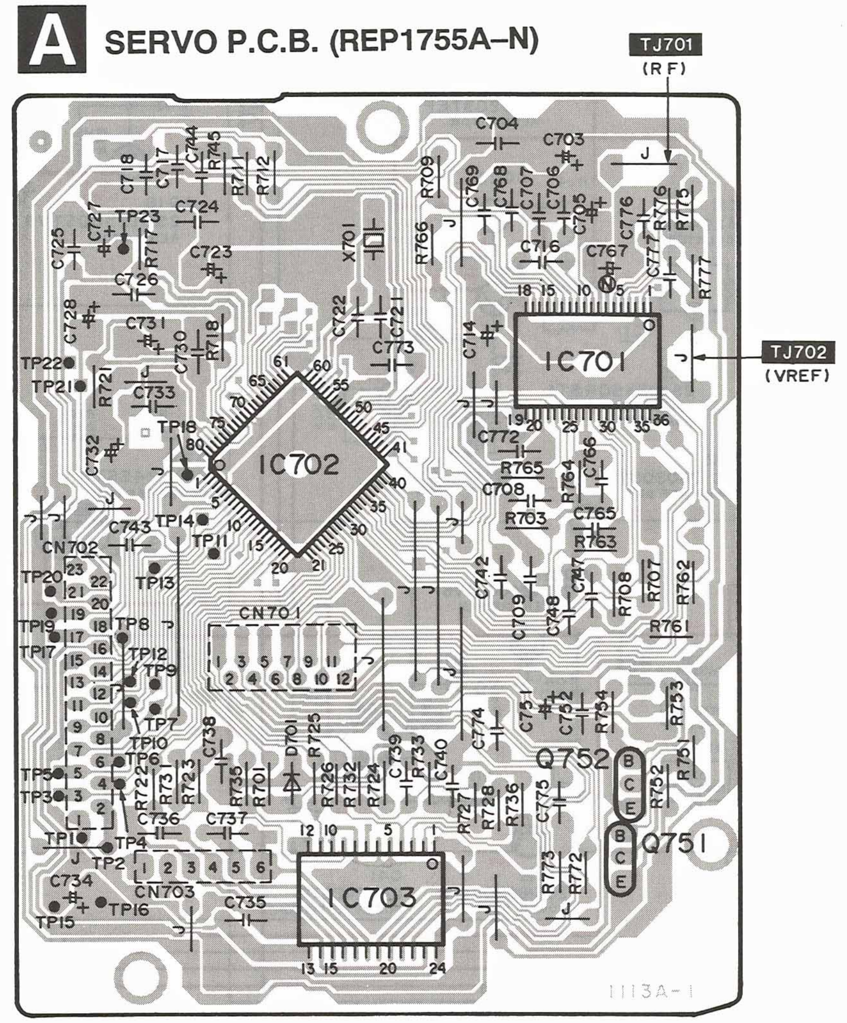
■ Printed Circuit Board Diagram

- This circuit board diagram may be modified at any time with the development of new technology.

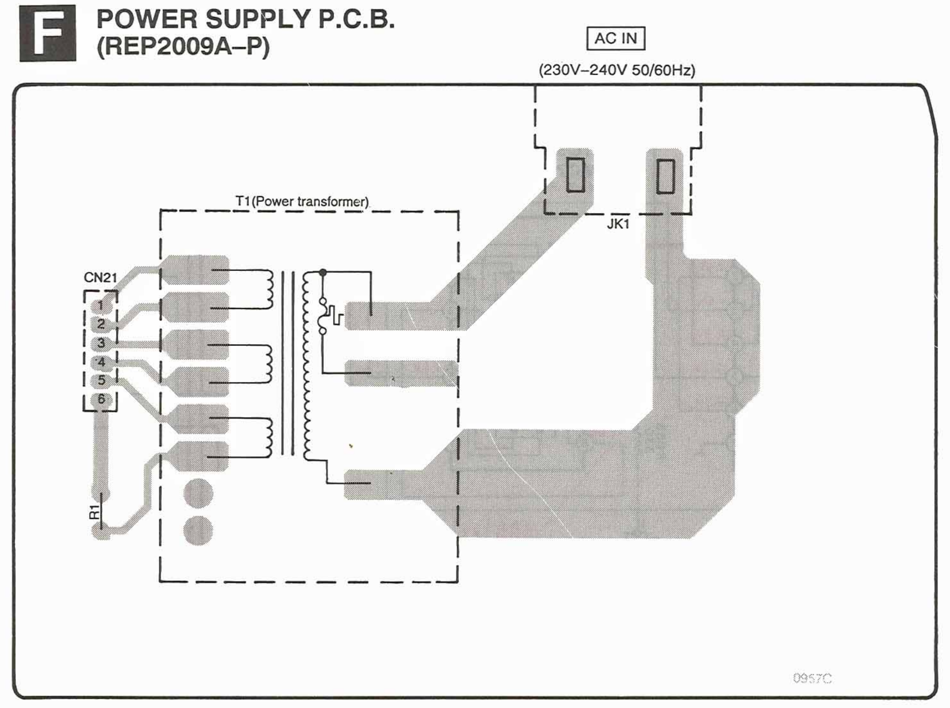
E MAIN P.C.B. (REP2011A–M)


DIGITAL
(OPTICAL
OUT)
OUT
(Lch)
(Rch)
JK301
JK801
IC11
Q19
Q20
Q22
Q11
Q12
Q13
Q15
Q16
Q21
Q31
Q32
Q33
Q34
Q402
Q401
IC401
IC801
IC802
IC302
IC303
IC304
Q851
Q853
Q854
Q801
Q802
Q803
Q804
CN411
CN412

A SERVO P.C.B. (REP1755A–N)


TJ701
(RF)
TJ702
(VREF)
IC701
IC702
IC703
CN701
CN702
CN703
Q751
Q752
TP22
TP21
TP23
TP14
TP13
TP12
TP11
TP10
TP9
TP8
TP7
TP6
TP5
TP4
TP3
TP2
TP1
TP16
TP20
TP19
TP18
TP17
1113A-1

F POWER SUPPLY P.C.B. (REP2009A–P)

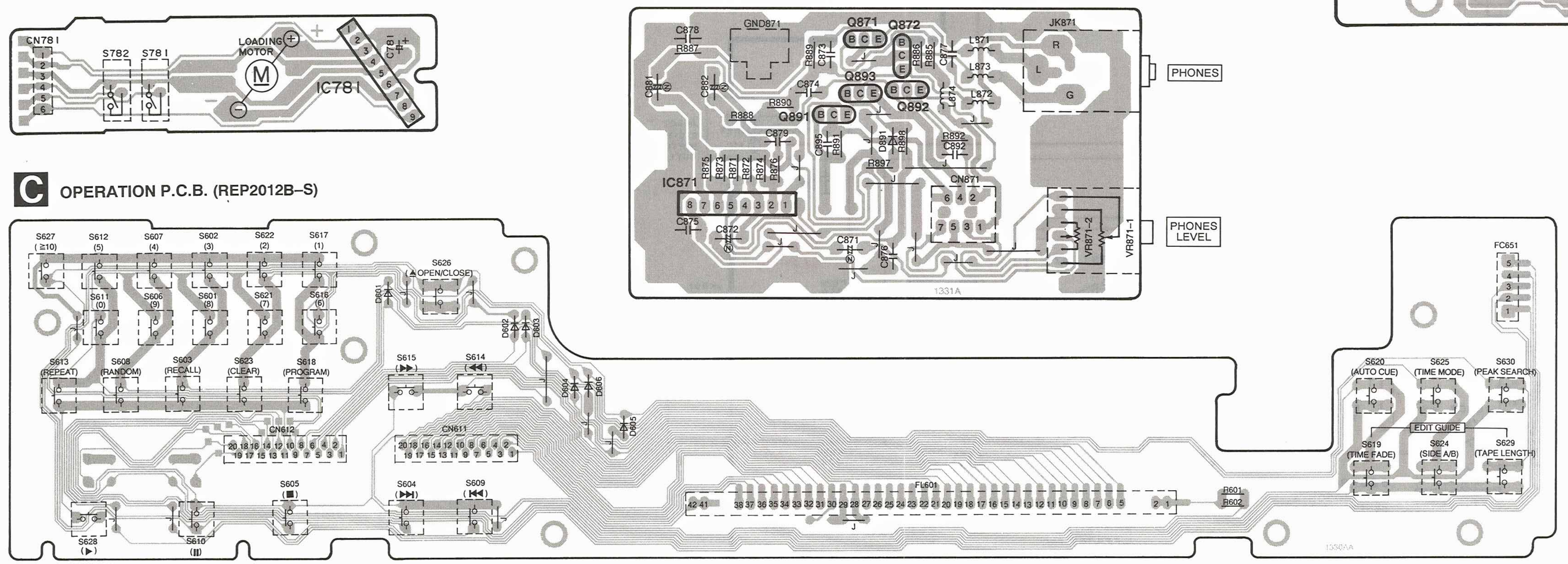

AC IN
(230V–240V 50/60Hz)
T1(Power transformer)
JK1
CN21

D LOADING MOTOR P.C.B. (REP1940A–N)

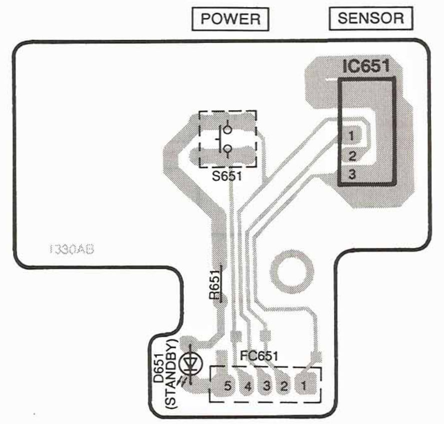
CN781
S782
S781
LOADING MOTOR
M
IC781

G HEADPHONES JACK P.C.B. (REP2035A–S)

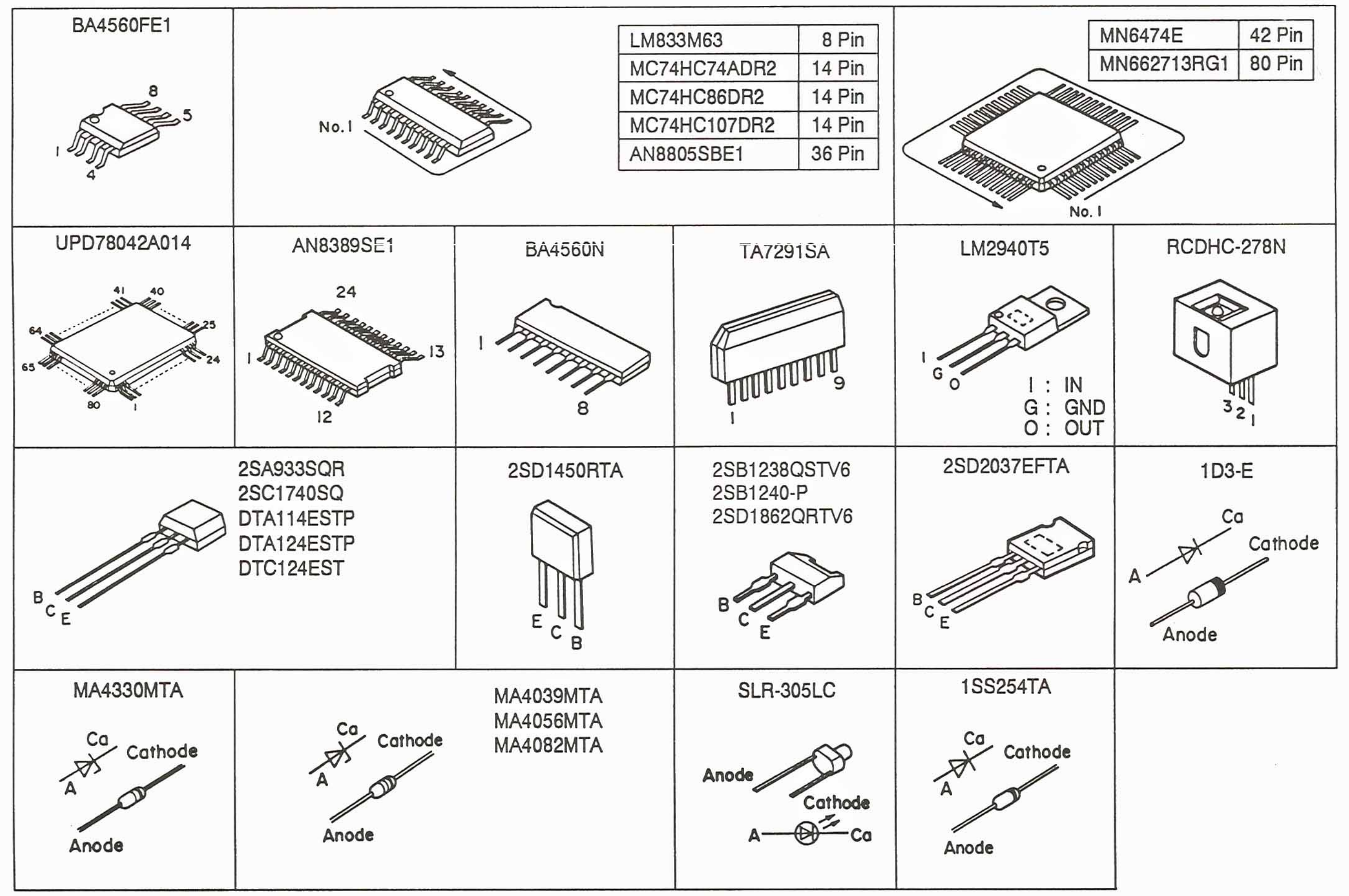
C OPERATION P.C.B. (REP2012B–S)


JK871
PHONES
PHONES LEVEL
Q871
Q872
Q893
Q891
Q892
IC871
8 7 6 5 4 3 2 1
C875
C872
C871
C876
R897
C892
CN871
VR871-2
VR871-1
1331A
S627
(≧10)
S612
(5)
S607
(4)
S602
(3)
S622
(2)
S617
(1)
S611
(0)
S606
(9)
S601
(8)
S621
(7)
S616
(6)
S626
(▲ OPEN/CLOSE)
D601
D602
D603
D604
D605
D606
S613
(REPEAT)
S608
(RANDOM)
S603
(RECALL)
S623
(CLEAR)
S618
(PROGRAM)
S615
(▶▶)
S614
(◀◀)
CN612
CN611
S628
(▶)
S610
(II)
S605
(■)
S604
(▶▶I)
S609
(I◀◀)
FL601
R601
R602
FC651
S620
(AUTO CUE)
S625
(TIME MODE)
S630
(PEAK SEARCH)
EDIT GUIDE
S619
(TIME FADE)
S624
(SIDE A/B)
S629
(TAPE LENGTH)
1330AA

B REMOTE SENSOR /POWER SWITCH P.C.B. (REP2012B–S)


POWER
SENSOR
IC651
S651
(STANDBY)
FC651
1330AB

• Terminal guide of IC's, transistors and diodes



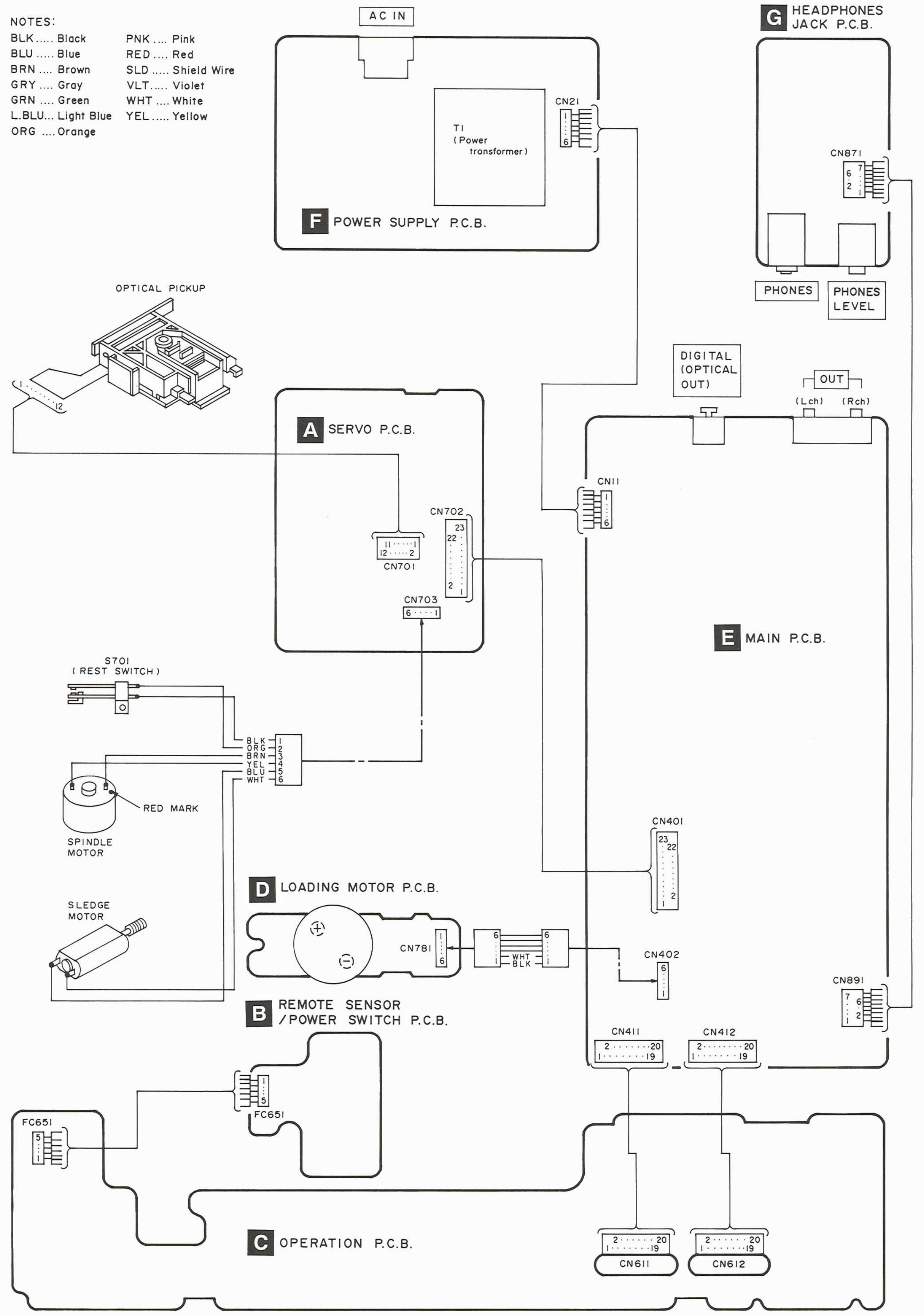
BA4560FE1	LM833M63 8 Pin MC74HC74ADR2 14 Pin MC74HC86DR2 14 Pin MC74HC107DR2 14 Pin AN8805SBE1 36 Pin			MN6474E 42 Pin MN662713RG1 80 Pin	
UPD78042A014	AN8389SE1	BA4560N	TA7291SA	LM2940T5 I : IN G : GND O : OUT	RCDHC-278N
2SA933SQR 2SC1740SQ DTA114ESTP DTA124ESTP DTC124EST		2SD1450RTA	2SB1238QSTV6 2SB1240-P 2SD1862QRTV6	2SD2037EFTA	1D3-E
MA4330MTA	MA4039MTA MA4056MTA MA4082MTA		SLR-305LC	1SS254TA	

8
5
1
4
No.1
No.1
41
40
64
25
65
24
80
1
24
1
13
12
1
8
1
9
I
G
O
3
2
1
B
C
E
E
C
B
B
C
E
B
C
E
Ca
Cathode
A
Anode
Ca
Cathode
A
Anode
Ca
Cathode
A
Anode
Anode
Cathode
A
Ca
Ca
Cathode
A
Anode

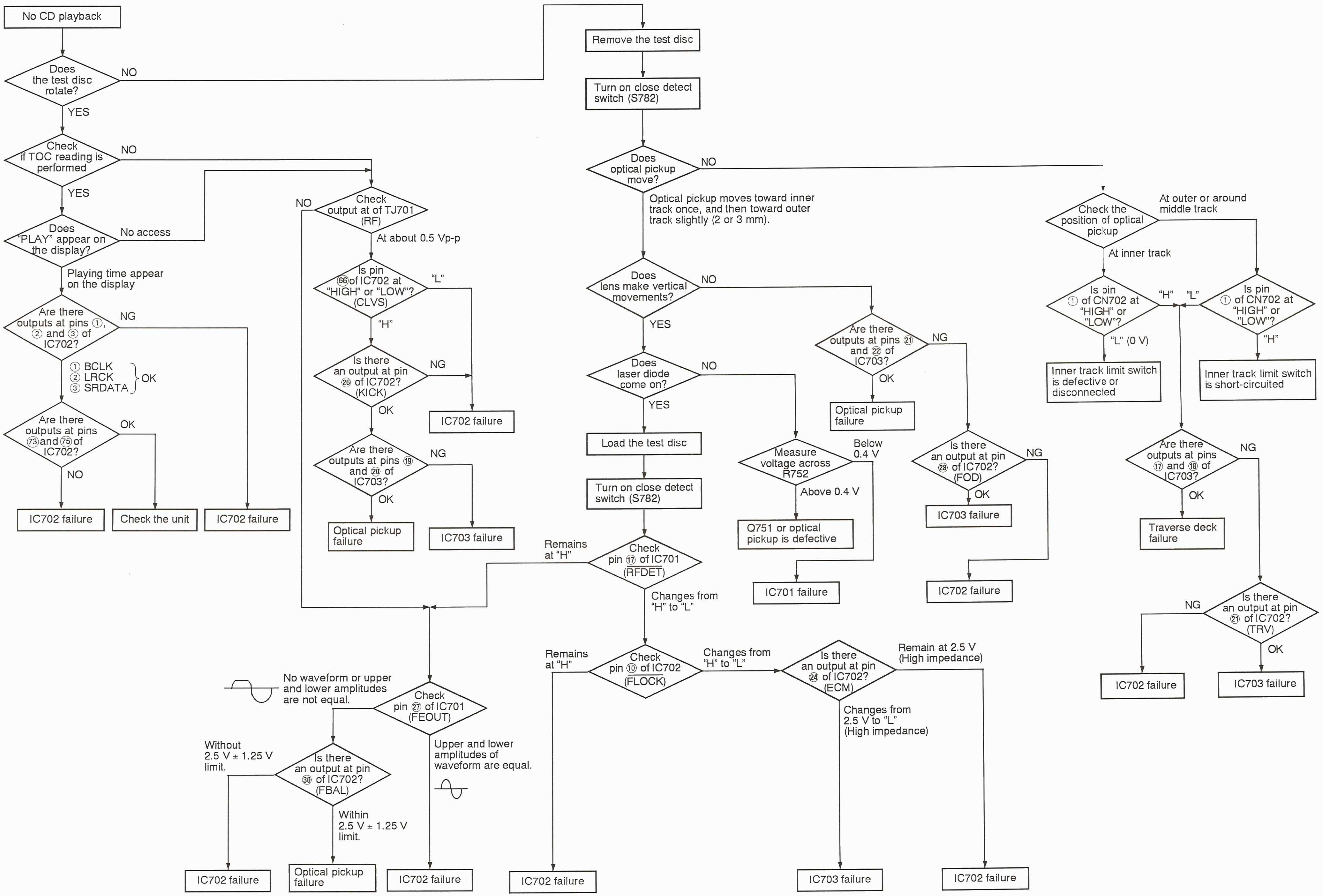
■ Wiring Connection Diagram

NOTES:

BLK	Black	PNK	Pink
BLU	Blue	RED	Red
BRN	Brown	SLD	Shield Wire
GRY	Gray	VLT	Violet
GRN	Green	WHT	White
L.BLU	Light Blue	YEL	Yellow
ORG	Orange		


AC IN
T1
(Power
transformer)
CN21
F POWER SUPPLY P.C.B.
G HEADPHONES JACK P.C.B.
CN871
PHONES
PHONES LEVEL
OPTICAL PICKUP
DIGITAL
(OPTICAL
OUT)
OUT
(Lch)
(Rch)
A SERVO P.C.B.
CN702
CN701
CN703
CN11
E MAIN P.C.B.
S701
(REST SWITCH)
RED MARK
SPINDLE MOTOR
SLEDGE MOTOR
CN401
D LOADING MOTOR P.C.B.
CN781
CN402
CN891
B REMOTE SENSOR
/POWER SWITCH P.C.B.
FC651
FC651
CN411
CN412
C OPERATION P.C.B.
CN611
CN612

■ Troubleshooting Guide


No CD playback
Does the test disc rotate?
NO
YES
Check if TOC reading is performed
NO
YES
Does "PLAY" appear on the display?
No access
Playing time appear on the display
Are there outputs at pins ①, ② and ③ of IC702?
NG
① BCLK
② LRCK
③ SRDATA
OK
Are there outputs at pins (73) and (75) of IC702?
OK
NO
IC702 failure
Check the unit
IC702 failure
NO
Check output at of TJ701 (RF)
At about 0.5 Vp-p
Is pin (66) of IC702 at "HIGH" or "LOW"? (CLVS)
"L"
"H"
Is there an output at pin ㉖ of IC702? (KICK)
NG
OK
IC702 failure
Are there outputs at pins ⑲ and ⑳ of IC703?
NG
OK
Optical pickup failure
IC703 failure
Remove the test disc
Turn on close detect switch (S782)
Does optical pickup move?
NO
Optical pickup moves toward inner track once, and then toward outer track slightly (2 or 3 mm).
Does lens make vertical movements?
NO
YES
Does laser diode come on?
NO
YES
Load the test disc
Turn on close detect switch (S782)
Remains at "H"
Check pin ⑰ of IC701 (RFDET)
Changes from "H" to "L"
Are there outputs at pins ㉑ and ㉒ of IC703?
NG
OK
Optical pickup failure
Measure voltage across R752
Below 0.4 V
Above 0.4 V
Q751 or optical pickup is defective
IC701 failure
Is there an output at pin ㉘ of IC702? (FOD)
NG
OK
IC703 failure
IC702 failure
Check the position of optical pickup
At outer or around middle track
At inner track
Is pin ① of CN702 at "HIGH" or "LOW"?
"H"
"L"
"L" (0 V)
Is pin ① of CN702 at "HIGH" or "LOW"?
"H"
Inner track limit switch is defective or disconnected
Inner track limit switch is short-circuited
Are there outputs at pins ⑰ and ⑱ of IC703?
NG
OK
Traverse deck failure
Is there an output at pin ㉑ of IC702? (TRV)
NG
OK
IC702 failure
IC703 failure
No waveform or upper and lower amplitudes are not equal.
Check pin ㉗ of IC701 (FEOUT)
Upper and lower amplitudes of waveform are equal.
Without 2.5 V ± 1.25 V limit.
Is there an output at pin ㉚ of IC702? (FBAL)
Within 2.5 V ± 1.25 V limit.
IC702 failure
Optical pickup failure
IC702 failure
Remains at "H"
Check pin ⑩ of IC702 (FLOCK)
Changes from "H" to "L"
Is there an output at pin ㉔ of IC702? (ECM)
Remain at 2.5 V (High impedance)
Changes from 2.5 V to "L" (High impedance)
IC702 failure
IC703 failure
IC702 failure

■ Automatic Adjustment Results Display Function

(Self-Check Function)

This unit has a function that uses the FL display board to indicate the results of automatic adjustment of the servo-circuit (tracking, focus, offset, etc.) as error codes. The error code display indicates the location of failures from automatic adjustment circuit.
The following procedure displays the error codes from the self-diagnostic function.

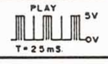
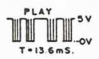
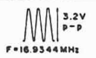
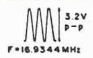
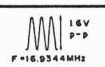
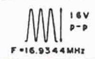
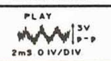
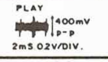
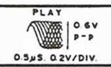
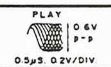
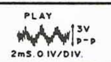
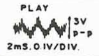
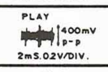
● Procedure for displaying automatic adjustment codes

1. Plug in the cord and wait for the STANDBY LED to flash, indicating the unit is in standby status.
2. Turn on the power supply switch while pressing the STOP (■), PAUSE (▮▮) and PLAY (▶) buttons at the same time.
3. The " F‾E̲.C̲. " code is displayed 2 or 3 seconds later to indicate the automatic adjustment results mode.
4. Push the OPEN/CLOSE button to open the disc tray and then load the test disc (SZZP1054C).
5. Push the OPEN/CLOSE button again to close the disc tray.
6. After automatic adjustment, the code display indicates the location of failures in the servo circuit.

● Troubleshooting using the automatic adjustment code

Notes:
1. If "E-00" is displayed as an error code, this means no error was found.
2. Check the disc and laser-detector lens for damage, contamination or stains.

● Take out the test disc and turn off the power, which terminates the automatic adjustment results mode.

FL error code display	Symptom	Probable cause	Signal to check		Normal voltage and waveform values	
			Location	Signal name	PLAY	STOP
E-01	Focus and tracking offset adjustments not completed in specified time period.	① Clocks X1 and X2, power supply VDD, and reset/RST, all on IC702. ② MDATA, MCLK, MLD, and SENSE signals to/from mechanism controller.	IC702 ⑧ pin	MDATA		4.8V
			IC702 ⑦ pin	MCLK		4.8V
			IC702 ⑨ pin	MLD		
			IC702 ⑩ pin	SENSE	0V	0V
			IC702 ⑱ pin	/RST	4.9V	4.9V
			IC702 (58) pin	X1		
			IC702 (59) pin	X2		
E-03 E-05 E-07 E-09 E-0B E-0D E-0F	Disc play unstable	① Scratches or contaminants on disc surface ② Focus and Tracking servo circuits (check waveforms, voltages, and part values.) ③ Spindle driver circuit ④ Optical pickup	IC702 ㉜ pin	F E		2.4V
			IC702 ㉝ pin	T E		2.4V
			IC702 ㉘ pin	FOD	2.4V	2.4V
			IC702 ㉗ pin	TRD	2.4V	2.4V
			IC702 ㉖ pin	KICK	2.4V	2.4V
			IC702 ⑪ pin	/FLOCK	0V	4.9V
			IC702 ㊳ pin	/RF DET	0V	4.8V
			TJ701	R F		3.4V
			IC702 ⑰ pin	STAT	4.9V	0V
E-04 E-06 E-0C E-0E	Best "eye" (PD balance) adjustment not completed in specified time period.	① Scratches or contaminants on disc surface ② Focus servo circuits (check waveforms, voltages, and part values.) ③ Optical pickup	IC702 ㉚ pin	FBAL	2.5V ± 1.25V	2.5V ± 1.25V
			TJ701	R F		3.4V
			IC702 ㉜ pin	F E		0V
			IC702 ㊱ pin	O F T	0V	0V
			IC702 ⑫ pin	/TLOCK	0V	0V
E-08 E-0A	Focus or Tracking gain adjustment not completed in specified time period.	① Scratches or contaminants on disc surface ② Focus and Tracking servo circuit (check waveforms, voltages, and part values.) ③ Optical pickup	IC702 ㉜ pin	F E		2.4V
			IC702 ㉝ pin	T E		2.4V
			IC702 ㊱ pin	O F T	0V	0V
			IC702 ⑫ pin	/TLOCK	0V	0V

■ Function of IC Terminals

● IC401 (UPD78042A014)

Pin No.	Terminal Name	I/O	Function
1 ~ 7	7G ~ 1G	O	FL grid drive signal output
8	VDD	—	Power supply (+ 5V)
9	MCLK	O	Microprocessor command clock
10	MDATA	O	Microprocessor command data
11	STAT	I	Status signal input
12	/MLD	O	Microprocessor command load signal
13	/DMUTE2	O	No used, open
14	SQCK	O	External clock for subcode Q register
15	NC	—	No used, open
16	SUBQ	I	Subcode Q input
17	/RST	I	Reset signal input
18	/OPEN SW	I	Disc tray "open" sense switch status
19	/CLOSE SW	I	Disc tray "close" sense switch status
20	GND	—	Connect to GND
21	/OPEN	O	Open Disc Tray command output
22	/CLOSE	O	Close Disc Tray command output
23	SENSE	I	Sense signal input
24	/FLOCK	I	Focus servo pull-in signal
25	/TLOCK	I	Tracking servo pull-in signal
26	/S RST	O	Reset signal output (for servo)
27	REST SW	I	Innermost track sense switch status
28	/POWER OFF	O	Power off command output
29	VDD	—	Power supply (+ 5V)
30	GND	—	Connect to GND
31	GND	—	Connect to GND
32	NC	—	No used, open
33	GND	—	Connect to GND
34	X1	I	Main clock (4.23 MHz) input
35	X2	O	Main clock output
36 ~ 41	P37 ~ P32	I	No used, open
42	P31	I	Connect to GND
43	P30	I	
44	/MRST	O	Reset signal output for MASH (IC801)
45	EMPH	O	Emphasis signal output
46	/DMUTE	O	Muting signal output
47	REMOCON	I	Remote control signal input
48	GND	—	Connect to GND
49	/STANDBY LED	O	STANDBY LED control signal output
50	/PAUSE LED	O	PAUSE LED control signal output
51	/PLAY LED	O	PLAY LED control signal output
52	VDD	—	Power supply (+ 5V)
53	POWER SW	I	Power key switch signal input
54 ~ 58	P126 ~ P122	I	Key return signal input
59 60	P121 P120	—	Connect to GND
61 ~ 66	P16 ~ P11	O	FL anode drive signal and key scan signal output
67 ~ 70	P10 ~ P7	O	FL anode drive signal output
71	VPP	—	Power supply terminal for FL drive (−32V)
72 ~ 77	P6 ~ P1	O	FL anode drive signal output
78 ~ 80	10G ~ 8G	O	FL grid drive signal output

● IC703 (AN8389SE1)

Pin No.	Terminal Name	I/O	Function
1	Vcc	—	Power supply
2	VREF	I	VREF input
3	IN4	I	Motor driver (4) input
4	IN3	I	Motor driver (3) input
5	GND	—	Ground connection
6	NC	—	Ground connection
7	NRESET	—	Reset input (no used, open)
8	GND	—	Ground connection
9	IN2	I	Motor driver (2) input
10	PC2	I	PC2 (power cut) input
11	IN1	I	Motor driver (1) input
12	PC1	I	PC1 (power cut) input
13	PVcc1	—	Power supply (1) for driver
14	PGND1	—	Ground connection (1) for driver
15	D1-	O	Motor driver (1) reverse-action output
16	D1+	O	Motor driver (1) forward-action output
17	D2-	O	Motor driver (2) reverse-action output
18	D2+	O	Motor driver (2) forward-action output
19	D3-	O	Motor driver (3) reverse-action output
20	D3+	O	Motor driver (3) forward-action output
21	D4-	O	Motor driver (4) reverse-action output
22	D4+	O	Motor driver (4) forward-action output
23	PGND2	—	Ground connection (2) for driver
24	PVcc2	—	Power supply (2) for driver

● IC701 (AN8805SBE1)

Pin No.	Terminal Name	I/O	Function
1	PD	I	APC amplifier input
2	LD	O	APC amplifier output (No used, open)
3	LD ON/OFF	I	APC ON/OFF control signal
4	REFSW	I	Capacitor connection for CROSS
5	VCC	—	Power supply
6	RF-	I	RF amplifier inversion signal input
7	RF	O	RF amplifier signal output
8	RFIN	I	AGC signal input
9	CAGC	I	AGC loop filter connection
10	ARF	O	AGC signal output
11	CENV	I	Capacitor connection for RF detection
12	CEA	I	Capacitor connection for HPF amplifier
13	CSBDO	I	Capacitor connection for-RF envelope detection
14	EDO	O	BDO signal output
15	CSBRT	I	Capacitor connection for RF envelope detection
16	OFTR	O	OFTR signal output
17	/RFDET	O	RFDET signal output
18	Vss	—	GND
19	ENV	O	3TENV signal output
20	VREF	O	VREF signal output
21	LD OFF	—	APC OFF signal control
22	VDET	O	VDET signal output
23	TEBPF	I	VDET signal input
24	CROSS	O	CROSS signal output
25	TEOUT	O	TE amplifier signal output
26	TE-	I	TE amplifier inversion signal input
27	FEOUT	O	FE amplifier signal output
28	FE-	I	FE amplifier inversion signal input
29	FBAL	I	F BAL control signal
30	TBAL	I	T BAL control signal
31	PDFR	—	Adjustment for I-V amplifier conversion resister
32	PDER	—	Adjustment for I-V amplifier conversion resister
33	E	I	I-V amplifier signal input
34	F	I	I-V amplifier signal input
35	B+D	I	I-V amplifier signal input
36	A+C	I	I-V amplifier signal input

● IC702(MN662713RG1)

Pin No.	Terminal Name	I/O	Function
1	BCLK	O	Bit clock output for serial data
2	LRCK	—	L.R identification signal output
3	SRDATA	—	Serial data output
4	DVdd1	—	Power supply input (for digital circuit)
5	DVss1	—	GND (for digital circuit)
6	TX	O	Digital audio interface signal output
7	MCLK	I	Microprocessor command clock signal input (Latches data at first transition)
8	MDATA	I	Microprocessor command data signal input
9	MLD	I	Microprocessor command load signal input
10	SENSE	O	Sense signal output (OFT, FESL, MAGEND, NAJEND, POSAD, SFG)
11	/FLOCK	O	Focus servo feeding signal output ("L": Feed)
12	/TLOCK	O	Tracking servo feeding signal output ("L": Feed)
13	BLKCK	O	Sub-code block clock signal output (fBLKCK = 75 Hz during normal playback) (no used, open)
14	SQCK	I	External clock signal input for sub-code Q resister
15	SUBQ	O	Sub-code Q code output
16	DMUTE	I	Muting input ("H": Mute)
17	STAT	O	Status signal output (CRC, CUE, CLVS, TTSTVP, FCLV, SQCK)
18	/RST	I	Reset input
19	SMCK	—	1/2-divided clock signal of crystal oscillating at MSEL = "H" (fSMCK = 8.4672 MHz) 1/4-divided clock signal of crystal oscillating at MSEL = "L" (fSMCK = 4.2336 MHz) (no used,open)
20	PMCK	—	1/192-divided clock signal of crystal oscillating (fPMCK = 88.2 kHz) (no used,open)
21	TRV	O	Traverse forced feed output
22	TVD	O	Traverse drive output
23	PC	O	Spindle motor ON signal output ("L": ON)
24	ECM	O	Spindle motor drive signal output (forced mode output)
25	ECS	O	Spindle motor drive signal output (servo error signal output)
26	KICK	O	Kick pulse output
27	TRD	O	Tracking drive output
28	FOD	O	Focus drive output
29	VREF	I	D/A (drive) output (TVD, ECS, TRD, FOD, FBAL, TBAL) reference voltage input
30	FBAL	O	Focus balance adjustment output
31	TBAL	O	Tracking balance adjustment output

● IC702 Continued

Pin No.	Terminal Name	I/O	Function
32	FE	I	Focus error signal input (analog input)
33	TE	I	Tracking error signal input (analog input)
34	RFENV	I	RF envelope signal input
35	VDET	I	Vibration detection signal input ("H": detection)
36	OFT	I	Off-track signal input ("H": off track)
37	TRCRS	I	Track cross signal input
38	/RFDET	I	RF detection signal input ("L": detection)
39	BDO	I	Dropout signal input ("H": Dropout)
40	LDON	O	Laser on signal output ("H": ON)
41	TES	O	Tracking error shunt signal output ("H": shunt) (no used, open)
42	PLAY	O	Play signal out ("H": PLAY) (no used, open)
43	WVEL	O	Double speed status signal output ("H": Double speed) (no used, open)
44	ARF	I	RF signal input
45	IREF	I	Reference current input
46	DRF	—	DSL bias (no used, open)
47	DSLF	I/O	DSL loop filter
48	PLLF	I/O	PLL loop filter
49	VCOF	I/O	VCO loop filter
50	AVdd2	—	Power supply input (for analog circuit)
51	AVss2	—	GND (for analog circuit)
52	EFM	—	EFM signal output (not used, open)
53	PCK	—	PLL extraction clock output (fPCK= 4.321 MHz during normal playback) (no used, open)
54	PDO	—	Phase comparison signal of EFM and PCK signals (no used, open)
55	SUBC	O	Sub-code serial data output (no used, open)
56	SBCK	I	Clock input for sub-code serial data
57	Vss	—	GND
58	X1	I	Crystal oscillating circuit input (f = 16.9344MHz)
59	X2	O	Crystal oscillating circuit output (f = 16.9344MHz)
60	Vdd	—	Power supply input (for oscillating circuit)
61	BYTCK	—	Byte clock output (no used, open)
62	/CLDCK	O	Sub-code frame clock signal output (fCLDCK = 7.35kHz during normal playback)
63	FCLK	—	Crystal frame clock signal output (fFCLK = 7.35kHz, double = 14.7kHz)
64	IPFLAG	O	Interpolation flag output ("H": Interpolation) (no used, open)
65	FLAG	O	Flag output (no used, open)
66	CLVS	O	Spindle servo phase synchronizing signal output ("H": CLV, "L": rough servo) (no used, open)
67	CRC	O	Sub-code CRC checked output ("H": OK, "L": NG) (no used, open)
68	DEMPH	O	De-emphasis ON signal output ("H": ON) (no used, open)
69	RESY	—	Frame resynchronizing signal output (no used, open)
70	/RST2	I	Reset input through MASH circuit ("L": Reset)
71	/TEST	I	Test input
72	AVdd1	—	Power supply input (for analog circuit)
73	OUTL	O	Left channel audio signal output
74	AVss1	—	GND
75	OUTR	O	Right channel audio signal output
76	RSEL	I	RF signal polarity assignment input (at "H" level: RSEL = "H") (at "L" level: RSEL = "L")
77	CSEL	I	Crystal oscillating frequency designation input ("L": 16.9344MHz, "H": 33.8688MHz)
78	PSEL	I	Test input (normally, "L")
79	MSEL	I	Output frequency switching for SMCK terminal "H": SMCK = 8.4672MHz "L": SMCK = 4.2336MHz
80	SSEL	I	Output mode switching of SUBQ terminal ("H": Q code buffer mode)

- **IC801 (MN6474E)**

Pin No.	Terminal Name	I/O	Function
1	MLD	I	Command load input (load: L) (No used, connected to VDD)
2	RSTB	I	Reset terminal
3	IE	I	No used, connected to GND
4	TP1	—	Test terminal
5	TP2	—	
6	TEST 1	I	Test terminal 1 (connected to GND)
7	TEST 2	I	Test terminal 2 (connected to GND)
8	NC	—	No used, open
9	NC	—	
10	AVDD4	I	Power supply terminal
11	OUTL(–)	O	L-ch data output, (–) terminal
12	AVSS4	—	GND terminal
13	AVSS3	—	GND terminal
14	OUTL(+)	O	L-ch data output, (+) terminal
15	AVDD3	I	Power supply terminal
16	NC	—	No used, open
17	AVDD2	I	Power supply terminal
18	OUTR(+)	O	R-ch data output, (+) terminal
19	AVSS2	—	GND terminal (analog system)
20	AVSS2	—	
21	OUTR(–)	O	R-ch data output, (–) terminal
22	AVDD1	I	Power supply terminal
23	DVDD1	I	Power supply terminal
24	DVSS1	—	GND terminal (digital system)
25	X2	O	Crystal OSC terminal (33 MHz)
26	X1	I	
27	NC	—	No used, connected to GND
28	DVDD2	I	Power supply terminal
29	DVSS2	—	GND terminal (digital system)
30	NSUB	I	Sub-strate terminal (No used, connected to VDD)
31	ZFLGB	O	No used, open
32	192 fs	O	192 fs (8.4672 MHz) (No used, open)
33	LRPOL	I	LR clock selector (No used, connected to VDD)
34	LRCLK	I	LR discrimination signal input
35	BCLK	I	Serial bit clock input
36	SRDATA	I	Serial data input (MSB first)
37	DVSS3	—	GND terminal (digital system) (No used, open)
38	DVDD	I	Power supply terminal
39	384 fs	O	384 fs (16.9344 MHz) output
40	PD	I	Power down terminal (No used, connected to GND)
41	MDATA	I	Mode control data (No used, connected to VDD)
42	MCLK	I	Data clock for MDATA (No used, connected to VDD)

Replacement Parts List

Notes: *Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety.
Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.
When replacing any of components, be sure to use only manufacture's specified parts shown in the parts list.
*The parenthesized indications in the Remarks columns specify the areas. (Refer to the cover page for area.)
Parts without these indications can be used for all areas.
*Remote Control Ass'y: Supply period for three years from termination of production.
*[MB] Indicates in Remarks columns parts that are supplied by MBV.
*Warning: This product uses a laser diode. Refer to caution statements on page 2.
*ACHTUNG: Die Lasereinheit nicht zerlegen.
Die Lasereinheit darf nur gegen eine vom Hersteller spezifizierte Einheit ausgetauscht werden.
*The "(SF)" mark denotes the standard part.

Ref. No.	Part No.	Part Name & Description	Remarks
		INTEGRATED CIRCUIT(S)	
IC11	LM2940T5	I. C, REGULATOR	⚠
IC302	MC74HC107DR2	I. C, J-K FLIP-FLOP	[MB]
IC303	MC74HC74ADR2	I. C, 0 FLIP-FLOP	[MB]
IC304	MC74HC86DR2	I. C, OR GATE	[MB]
IC401	UPD78042A014	I. C, SYSTEM CONTROL	[MB]
IC651	RCDHC-278N	I. C, REMOTE CONTROL RECEIVER	
IC701	AN8805SBE1	I. C, SERVO AMP.	[MB]
IC702	MN662713RG1	I. C, SERVO PROCESSOR	[MB]
IC703	AN8389SE1	I. C, MOTOR DRIVE	
IC781	TA7291SA	I. C, MOTOR DRIVE	
IC801	MN6474E	I. C, DIGITAL FILTER	[MB]
IC802	LM833M63	I. C, DIFFERENTIAL AMP.	
IC871	BA4560N	I. C, HEADPHONES AMP.	
IC891	BA4560FE1	I. C, L. P. FILTER AMP.	[MB]
		TRANSISTOR(S)	
Q11	2SD2037EFTA	TRANSISTOR	⚠
Q12	2SB1240-P	TRANSISTOR	⚠
Q13	2SD1862QRTV6	TRANSISTOR	⚠
Q15	2SA933SQR	TRANSISTOR	⚠
Q16	2SB1238QSTV6	TRANSISTOR	⚠
Q19, 20	2SD1450RTA	TRANSISTOR	
Q21	DTA124ESTP	TRANSISTOR	
Q22	2SC1740SQ	TRANSISTOR	
Q23	2SD2037EFTA	TRANSISTOR	⚠
Q31	2SD1862QRTV6	TRANSISTOR	⚠
Q32	2SB1240-P	TRANSISTOR	⚠
Q33	2SC1740SQ	TRANSISTOR	⚠
Q34	2SA933SQR	TRANSISTOR	⚠
Q41	DTA124ESTP	TRANSISTOR	
Q51, 52	2SC1740SQ	TRANSISTOR	
Q401, 402	2SD1862QRTV6	TRANSISTOR	⚠
Q751	2SA933SQR	TRANSISTOR	
Q752	2SC1740SQ	TRANSISTOR	
Q801, 802	2SC1740SQ	TRANSISTOR	
Q803, 804	2SD1450RTA	TRANSISTOR	
Q851	DTC124EST	TRANSISTOR	
Q853	DTA114ESTP	TRANSISTOR	
Q854	DTA124ESTP	TRANSISTOR	
Q871, 872	2SD1450RTA	TRANSISTOR	
Q891	2SC1740SQ	TRANSISTOR	
Q892, 893	2SA933SQR	TRANSISTOR	
		DIODE(S)	
D11-18	1D3-E	DIODE	⚠[MB]
D19	MA4330MTA	DIODE	⚠
D21, 22	MA4082MTA	DIODE	⚠
D25, 26	1SS254TA	DIODE	
D31, 32	1SS254TA	DIODE	
D41, 42	1SS254TA	DIODE	
D51	MA4039MTA	DIODE	
D301-305	1SS254TA	DIODE	
D401	MA4056MTA	DIODE	⚠
D601-606	1SS254TA	DIODE	
D651	SLR-305LC	L. E. D	
D701	1SS254TA	DIODE	
D801, 802	1SS254TA	DIODE	
D851	1D3-E	DIODE	[MB]
D861	1SS254TA	DIODE	
D891	1SS254TA	DIODE	
		VARIABLE RESISTOR(S)	
VR871	EVCU1A016A15	V. R, HEADPHONES LEVEL	[MB]
		COMPONENT COMBINATION(S)	
Z301	EXCELDR35V	COMBINATION PART	
Z851	EXCELDR35V	COMBINATION PART	
		COIL(S)	
L301	RLQZN4R7KL-D	COIL	
L801-804	RLQZN471KL-D	COIL	[MB]
L861	RLQZN4R7KL-D	COIL	
L871-873	RLQZN3R3KL-D	COIL	[MB]
L874	RLQZN4R7KL-D	COIL	
		TRANSFORMER(S)	
T1	RTP1K4B020	TRANSFORMER	⚠[MB]
		OSCILLATOR(S)	
X401	RSXY4M23M01T	OSCILLATOR(4.23MHz)	

Ref. No.	Part No.	Part Name & Description	Remarks
X701	RSXZ16M9M01T	OSCILLATOR(16.9MHz)	
X801	RSXA33M8J01T	OSCILLATOR(33.8MHz)	[MB]
		DISPLAY TUBE	
FL601	RSL0188-F	DISPLAY TUBE	[MB]
		SWITCH(ES)	
S601	EVQ21405R	SW, 8	
S602	EVQ21405R	SW, 3	
S603	EVQ21405R	SW, RECALL	
S604	EVQ21405R	SW, F. SKIP	
S605	EVQ21405R	SW, STOP	
S606	EVQ21405R	SW, 9	
S607	EVQ21405R	SW, 4	
S608	EVQ21405R	SW, RANDOM	
S609	EVQ21405R	SW, R. SKIP	
S610	EVQ21405R	SW, PAUSE	
S611	EVQ21405R	SW, 0	
S612	EVQ21405R	SW, 5	
S613	EVQ21405R	SW, REPEAT	
S614	EVQ21405R	SW, R. SEARCH	
S615	EVQ21405R	SW, F. SEARCH	
S616	EVQ21405R	SW, 6	
S617	EVQ21405R	SW, 1	
S618	EVQ21405R	SW, PROGRAM	
S619	EVQ21405R	SW, TIME FADE	
S620	EVQ21405R	SW, AUTO CUE	
S621	EVQ21405R	SW, 7	
S622	EVQ21405R	SW, 2	
S623	EVQ21405R	SW, CLEAR	
S624	EVQ21405R	SW, SIDE A/B	
S625	EVQ21405R	SW, TIME MODE	
S626	EVQ21405R	SW, OPEN/CLOSE	
S627	EVQ21405R	SW, >10	
S628	EVQ21405R	SW, PLAY	
S629	EVQ21405R	SW, TAPE LENGTH	
S630	EVQ21405R	SW, PEAK SEARCH	
S651	EVQ21405R	SW, POWER	
S781	RSH1A005	SW, TRAY OPEN DET.	
S782	RSH1A005	SW, TRAY CLOSE DET.	
		CONNECTOR(S)	
CN11	RJS1A6606	SOCKET(6P)	
CN21	RJS1A6606	SOCKET(6P)	
CN401	RJS1A6823	SOCKET(23P)	
CN402	RJT029W06VT	CONNECTOR(6P)	
CN411, 412	RJU076W20M	SOCKET(20P)	
CN611, 612	RJT076W20M	CONNECTOR(20P)	[MB]
CN701	RJS12Q9ZA	SOCKET(12P)	[MB]

Ref. No.	Part No.	Part Name & Description	Remarks
CN702	RJS1A6723-1Q	SOCKET(23P)	
CN703	RJT029W06VT	CONNECTOR(6P)	
CN781	RJP6G17ZA	PLUG(6P)	
CN871	RJS2A2107T	SOCKET(7P)	[MB]
CN891	RJS2A2107T	SOCKET(7P)	[MB]
		EARTH PLATE	
GND871	RMC0184	EARTH PLATE	[MB]
		JACK(S)	
JK1	SJS9236	AC INLET	⚠
JK301	TOTX174-A	OPTICAL OUT	
JK801	RJH3201N	LINE OUT	
JK871	QJA0455ZC-A	HEADPHONES JACK	

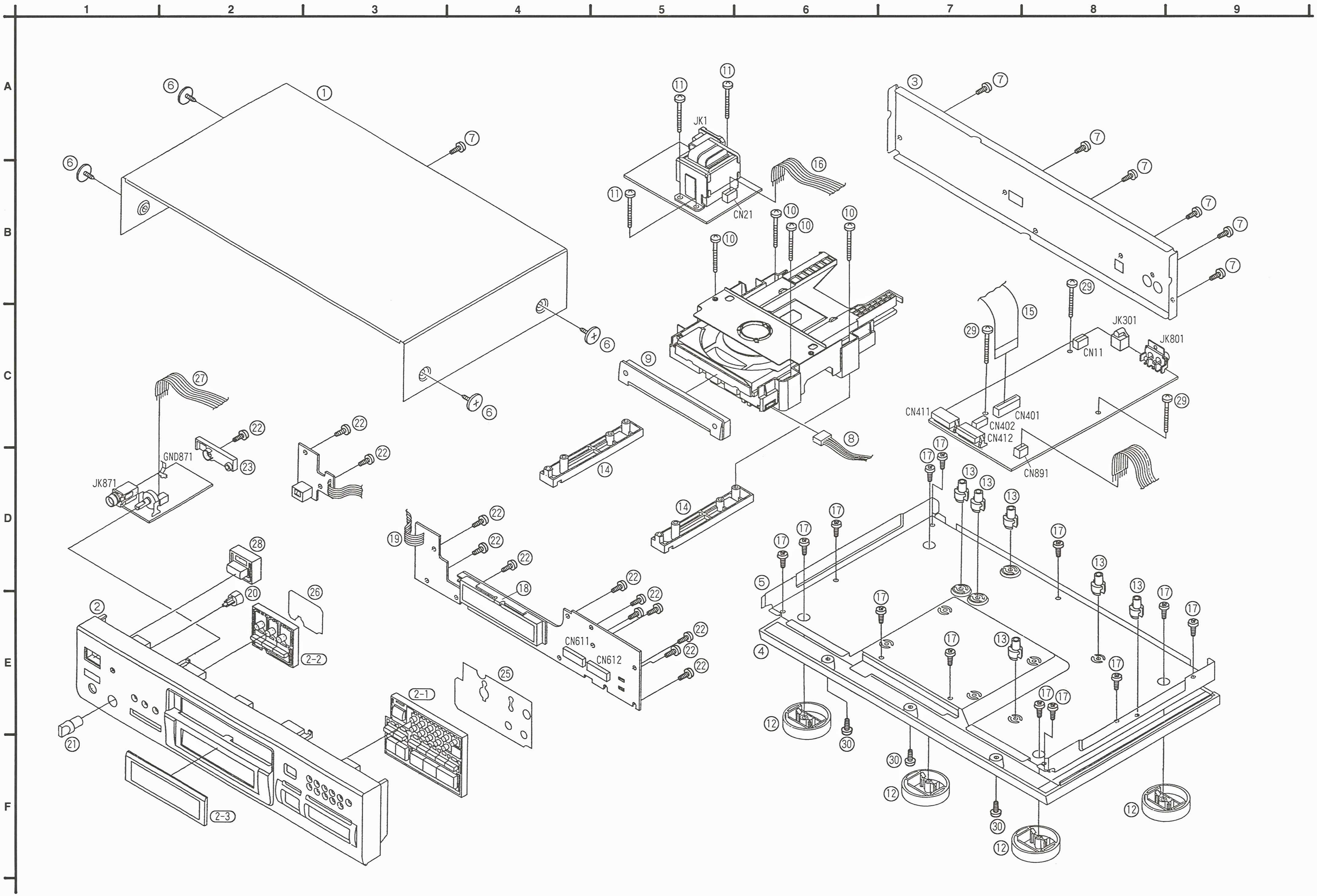
Notes : * Capacity values are in microfarads (uF) unless specified otherwise, P=Pico-farads (pF) F=Farads (F)
* Resistance values are in ohms, unless specified otherwise, 1K=1, 000 (OHM) , 1M=1, 000k (OHM)

Ref. No.	Part No.	Values & Remarks
		RESISTORS
R1	ERQ16NKWR15E	1W 0. 15
R12, 13	ERDS2TJ222	1/4W 2. 2K
R16	ERDS2TJ680T	1/4W 68
R17	ERDS2TJ471	1/4W 470
R18	ERDS2TJ473	1/4W 47K
R19	ERDS2TJ472	1/4W 4. 7K
R20	ERDS2TJ223	1/4W 22K
R23	ERDS2TJ103	1/4W 10K
R24-27	ERDS2TJ1R0	1/4W 1. 0
R28, 29	ERDS2TJ103	1/4W 10K
R30	ERDS2TJ223	1/4W 22K
R31, 32	ERDS2TJ471	1/4W 470
R33, 34	ERDS2TJ105T	1/4W 1M
R41	ERDS2TJ222	1/4W 2. 2K
R51	ERDS2TJ331	1/4W 330
R52	ERDS2TJ272T	1/4W 2. 7K
R53, 54	ERDS2TJ472	1/4W 4. 7K
R301	ERDS2TJ331	1/4W 330
R302	ERDS2TJ101	1/4W 100
R303, 304	ERDS2TJ220T	1/4W 22
R308	ERDS2TJ470	1/4W 47
R310	ERDS2TJ102	1/4W 1K
R311	ERDS2TJ822	1/4W 8. 2K
R401	ERDS2TJ102	1/4W 1K
R403, 404	ERDS2TJ103	1/4W 10K
R405, 406	ERDS2TJ471	1/4W 470
R407	ERDS2TJ101	1/4W 100
R408-412	ERDS2TJ103	1/4W 10K
R414, 415	ERDS2TJ103	1/4W 10K
R451	ERDS2TJ471	1/4W 470
R601, 602	ERDS2TJ100	1/4W 10
R651	ERDS2TJ221	1/4W 220
R701	ERDS2TJ561	1/4W 560
R703	ERDS2TJ823T	1/4W 82K
R707, 708	ERDS2TJ334	1/4W 330K
R709	ERDS2TJ683	1/4W 68K
R711	ERDS2TJ154	1/4W 150K
R712	ERDS2TJ221	1/4W 220
R717, 718	ERDS2TJ102	1/4W 1K
R721	ERDS2TJ101	1/4W 100
R722	ERDS2TJ683	1/4W 68K
R723	ERDS2TJ183T	1/4W 18K
R724	ERDS2TJ393	1/4W 39K
R725	ERDS2TJ472	1/4W 4. 7K
R726	ERDS2TJ474	1/4W 470K
R727	ERDS2TJ153	1/4W 15K
R728	ERDS2TJ822	1/4W 8. 2K
R731	ERDS2TJ223	1/4W 22K
R732	ERDS2TJ183T	1/4W 18K
R733	ERDS2TJ822	1/4W 8. 2K
R735, 736	ERDS2TJ101	1/4W 100
R745	ERDS2TJ155	1/4W 1. 5M
R751	ERDS2TJ681	1/4W 680
R752, 753	ERDS2TJ392T	1/4W 3. 9K
R754	ERDS2TJ103	1/4W 10K
R761, 762	ERDS2TJ103	1/4W 10K
R763	ERDS2TJ823T	1/4W 82K
R764	ERDS2TJ393	1/4W 39K
R765	ERDS2TJ224T	1/4W 220K
R766	ERDS2TJ104	1/4W 100K
R772, 773	ERDS2TJ220T	1/4W 22
R775, 776	ERDS2TJ392T	1/4W 3. 9K
R777	ERDS2TJ102	1/4W 1K
R801-804	ERDS2TJ330	1/4W 33
R805-808	ERDS2TJ433	1/4W 43K
R809-812	ERDS2TJ563	1/4W 56K
R813, 814	ERDS2TJ472	1/4W 4. 7K
R817, 818	ERDS2TJ221	1/4W 220
R819, 820	ERDS2TJ511	1/4W 510
R825, 826	ERDS2TJ102	1/4W 1K
R829, 830	ERDS2TJ331	1/4W 330
R831, 832	ERDS2TJ473	1/4W 47K
R833	ERDS2TJ472	1/4W 4. 7K
R837, 838	ERDS2TJ100	1/4W 10
R841, 842	ERDS2TJ470	1/4W 47
R852	ERDS2TJ222	1/4W 2. 2K
R853	ERDS2TJ331	1/4W 330
R857, 858	ERDS2TJ222	1/4W 2. 2K
R859, 860	ERDS2TJ105T	1/4W 1M
R861	ERDS2TJ102	1/4W 1K
R871, 872	ERDS2TJ473	1/4W 47K
R873-876	ERDS2TJ104	1/4W 100K
R885, 886	ERDS2TJ222	1/4W 2. 2K
R887, 888	ERDS2TJ101	1/4W 100
R889, 890	ERDS2TJ473	1/4W 47K
R891, 892	ERDS2TJ102	1/4W 1K
R893, 894	ERDS2TJ472	1/4W 4. 7K
R895, 896	ERDS2TJ471	1/4W 470
R897	ERDS2TJ103	1/4W 10K
R898	ERDS2TJ822	1/4W 8. 2K
		CAPACITORS
C1	ECFTD103KXL	50V 0. 01U
C11 ⚠	ECA1CM222B	16V 2200U
C12	ECBT1C103NS5	16V 0. 01U
C13	ECEA1AKA330B	10V 33U
C14	ECEA0JKA470B	6. 3V 47U
C15, 16 ⚠	ECA1EPXS471B	25V 470U
C17, 18	ECEA1HU101	50V 100U
C20, 21	ECA1EPXS101B	25V 100U
C22	ECEA1AU331	10V 330U
C31, 32	ECBT1H102KB5	50V 1000P
C33, 34	ECA1EPXS101B	25V 100U
C51	ECEA1AKA220B	10V 22U
C301	ECEA0JKA101B	6. 3V 100U
C302	ECFR1E104ZF5	25V 0. 1U
C303	ECBT1H101KB5	50V 100P
C304	ECEA0JKA101B	6. 3V 100U
C305	ECFR1E104ZF5	25V 0. 1U
C311	ECFR1E104ZF5	25V 0. 1U
C401	ECFR1E104ZF5	25V 0. 1U
C402	ECEA0JU102	6. 3V 1000U
C404	ECFR1E104ZF5	25V 0. 1U
C405	ECEA0JKA101B	6. 3V 100U
C451	ECBT1H101KB5	50V 100P
C703	ECEA0JKA101I	6. 3V 100U
C704	ECFR1E104ZF5	25V 0. 1U
C705	ECEA1HKA010I	50V 1U
C706	ECBT1H101KB5	50V 100P
C707	ECFR1C273KR	16V 0. 027U
C708	ECBT1C472MR5	16V 4700P
C709	ECFR1C473KR	16V 0. 047U
C714	ECEA0JKA101I	6. 3V 100U
C716	ECBT1H561KB5	50V 560P
C717	ECFR1E104ZF5	25V 0. 1U
C718	RCQ52C0224J9	63V 0. 22U
C721, 722	ECBT1H270J5	50V 27P
C723	ECEA0JKA221I	6. 3V 220U
C724	ECFR1E104ZF5	25V 0. 1U
C725, 726	ECBT1H102KB5	50V 1000P
C727, 728	ECEA1HKA010I	50V 1U
C730	ECFR1E104ZF5	25V 0. 1U
C731, 732	ECEA0JKA221I	6. 3V 220U
C733	ECFR1E104ZF5	25V 0. 1U
C734	ECEA1AKA221I	10V 220U
C735-737	ECBT1E223ZF	25V 0. 022U
C738	ECFR1C183KR	16V 0. 018U
C739	ECBT1C152MR5	16V 1500P
C740	ECBT1C272MR5	16V 2700P
C742	ECFR1C273KR	16V 0. 027U
C743	ECBT1E223ZF	25V 0. 022U
C744	ECBT1C822MS5	16V 8200P
C747, 748	ECBT1C103NS5	16V 0. 01U

Ref. No.	Part No.	Values & Remarks
C751	ECEA1CKA100I	16V 10U
C752	ECFR1E104ZF5	25V 0.1U
C765	ECBT1H331KB5	50V 330P
C766	ECBT1H391KB5	50V 390P
C767	ECEA1HKN010I	50V 1U
C768	ECFR1E682KR	25V 6800P
C769	ECBT1C222MR5	16V 2200P
C772-775	ECFR1E104ZF5	25V 0.1U
C776	ECBT1H180J5	50V 18P
C777	ECBT1H680J5	50V 68P
C781	ECEA1AKA101I	10V 100U
C801-804	RCQ52C0683J9	63V 0.068U
C805-808	ECBT1H121KB5	50V 120P
C811, 812	RCQ52C0683J9	63V 0.068U
C817	ECFR1E104ZF5	25V 0.1U
C819, 820	ECBT1H102KB5	50V 1000P
C831	ECFR1E104ZF5	25V 0.1U
C832	ECEA0JU331B	6.3V 330U
C833	ECFR1E104ZF5	25V 0.1U
C834	ECEA0JU331B	6.3V 330U
C835-837	ECFR1E104ZF5	25V 0.1U
C838	ECBT1H5R6K5	50V 5.6P
C840	ECBT1H5R6K5	50V 5.6P
C841	ECEA0JKA101B	6.3V 100U
C842	ECFR1E104ZF5	25V 0.1U
C852	ECEA1CKA100B	16V 10U
C853	ECEA1CU102B	16V 1000U
C860	ECFR1E104ZF5	25V 0.1U
C871, 872	ECEA1EKN3R3B	25V 3.3U
C873, 874	ECQB1H103JF3	50V 0.01U
C875-879	ECBT1C103NS5	16V 0.01U
C881, 882	ECEA1AN101XB	10V 100U
C892	ECBT1C103NS5	16V 0.01U
C893, 894	ECA1CPXS470B	16V 47U
C895	ECBT1C103NS5	16V 0.01U

Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET PARTS	
1	RKM0152-K	CABINET	[MB]
2	RYP0546Z-K	FRONT PANEL ASS'Y	[MB]
2-1	RGU1145B-K	MAIN BUTTON	[MB]
2-2	RGU1146B-K	SUB BUTTON	[MB]
2-3	RKW0359B-R	FL PANEL	[MB]
3	RGR0164B-B	REAR PANEL	[MB] (E, EG)
3	RFKHLPS670AB	REAR PANEL ASS'Y	[MB] (EB)
4	RKU0052-K	BOTTOM BASE	[MB]
5	RMK0179-1	BOTTOM CHASSIS	[MB]
6	RHD30035-K	SCREW	
7	XTBS3+8JFZ1	SCREW	
8	REX0577	CABLE ASS'Y (6P)	[MB]
9	RGK0676-K	ORNAMENT	[MB]
10	RHD30052	SCREW	[MB]
11	RHD30053	SCREW	[MB]
12	RKA0040B	FOOT	[MB]
13	RMR0377-1	P.C.B. SUPPORT	[MB]
14	RMR0810-W	SPACER	[MB]
15	RWJ5223130EE	FPC (23P)	[MB]
16	RWJ6406120XX	FLAT CABLE (6P)	[MB]
17	XTB3+10GFZ	SCREW	
18	RMR0811-K	FL HOLDER	[MB]
19	RWJ6405150XX	FLAT CABLE (5P) FC651	[MB]
20	RGL0267-Q	LED INDICATOR	[MB]
21	RGW0048-1K	H.P. VOLUME KNOB	[MB]
22	RHD26021	SCREW	[MB]
23	RMN0298	HOLDER	[MB]
25	RMV0079	SHEET (MAIN BUTTON)	[MB]
26	RMV0080	SHEET (MAIN BUTTON)	[MB]
27	RWJ6807450XX	FLAT CABLE (7P)	[MB]
28	RGU1029-K	POWER BUTTON	[MB]
29	XTB3+20JFZ	SCREW	
30	XTB3+10JFZ	SCREW	

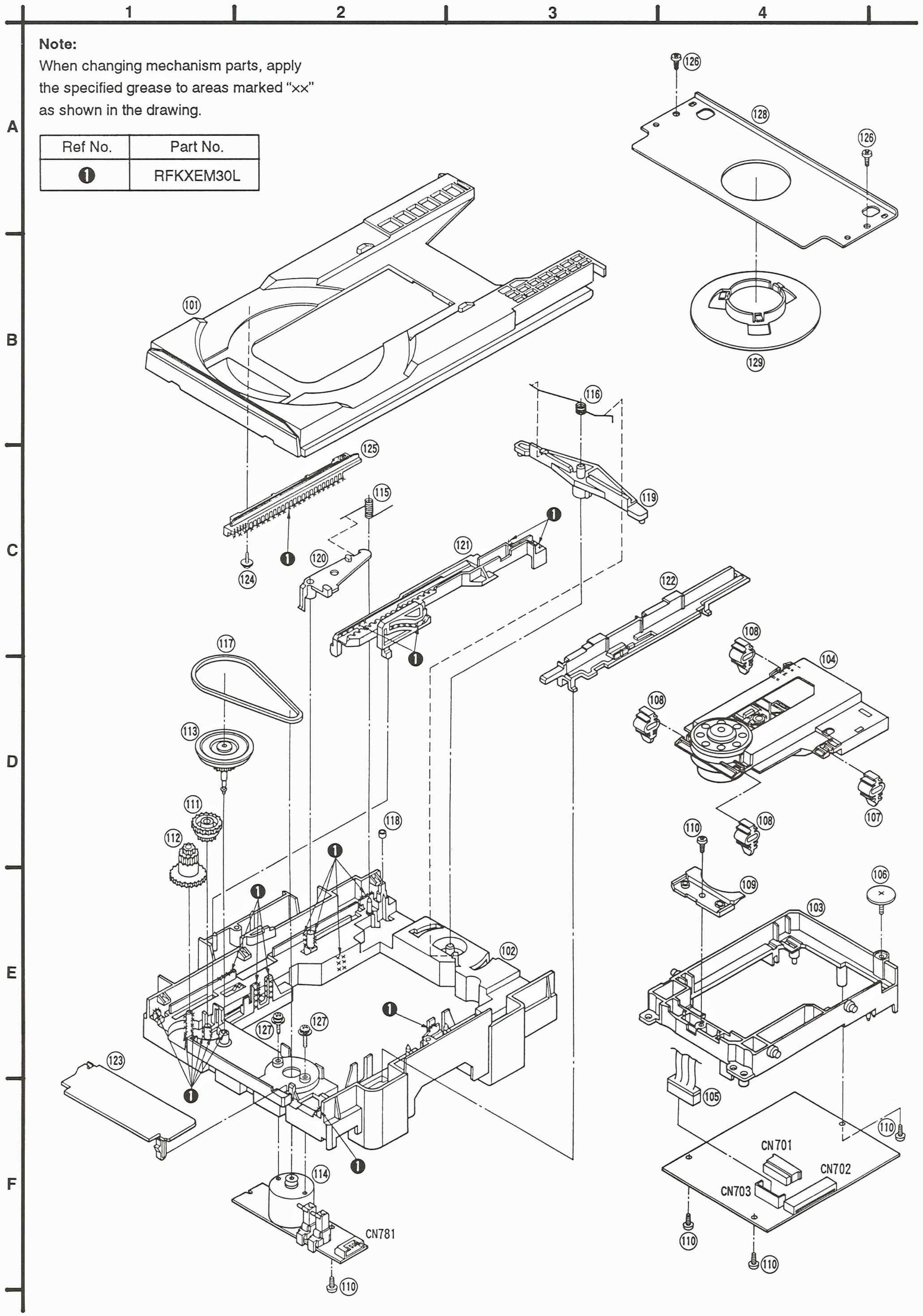
Cabinet Parts Location


1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
①
⑥
⑥
⑦
⑥
⑥
⑪
⑪
JK1
⑪
CN21
⑯
⑩
⑩
⑩
⑩
③
⑦
⑦
⑦
⑦
⑦
⑦
⑮
㉙
㉙
JK301
JK801
CN11
⑨
⑧
CN411
CN401
CN402
CN412
CN891
㉙
㉗
㉒
㉒
㉒
㉓
GND871
JK871
⑭
⑭
⑲
㉒
㉒
㉒
⑱
㉒
㉒
㉒
㉒
㉒
㉒
CN611
CN612
㉘
⑳
㉖
②
2-2
㉕
2-1
㉑
2-3
⑰
⑬
⑤
④
⑫
㉚

Loading Unit Parts Location

Note:
When changing mechanism parts, apply the specified grease to areas marked "xx" as shown in the drawing.

Ref No.	Part No.
❶	RFKXEM30L

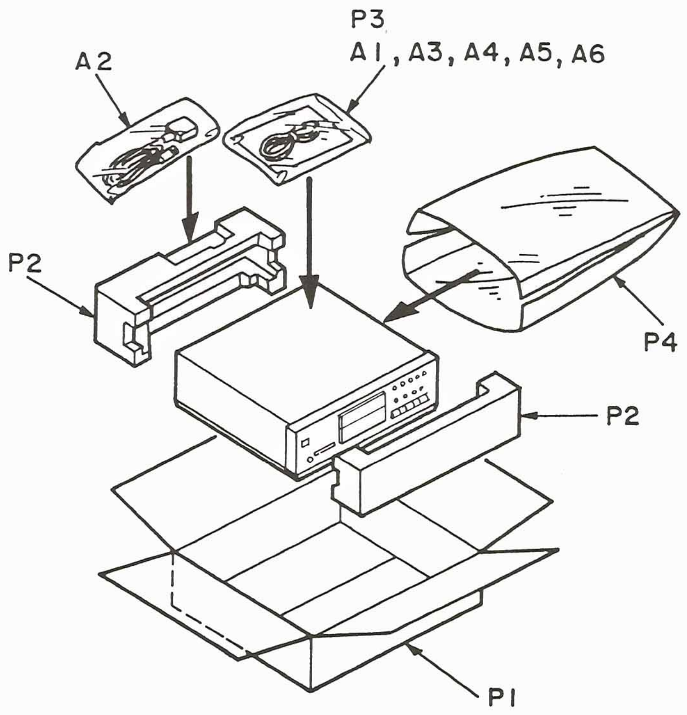

1
2
3
4
A
B
C
D
E
F
126
128
126
101
129
116
125
115
119
121
❶
124
❶
120
122
117
108
104
113
108
107
111
118
❶
112
❶
110
108
❶
109
106
103
102
❶
127
127
123
❶
105
❶
114
110
CN701
CN702
CN703
CN781
110
110
110

Ref. No.	Part No.	Part Name & Description	Remarks
		LOADING UNIT PARTS	
101	RGQ0130-K	TRAY	[MB]
102	RFKJLPG460AE	MECHANISM CHASSIS ASS'Y	[MB]
103	RMR0719-W1	MID. CHASSIS	[MB]
104	RAE1100Z-1	TRAVERSE UNIT	[MB]
105	REX0576	CABLE ASS'Y	[MB]
106	RHD30047	SCREW	[MB]
107	RMG0337-K	DAMPING RUBBER	[MB]
108	RMG0337-Q	DAMPING RUBBER	[MB]
109	RMR0750-W	STOPPER	[MB]
110	XTBS26+8J	SCREW	
111	RDG0142	RELAY GEAR	
112	RDG0259	DRIVE GEAR	[MB]
113	RDP0065	RELAY PULLY	
114	REM0047	MOTOR ASS'Y	[MB]
115	RME0063	LOCK LEVER SPRING	
116	RME0087	ASSIST SPRING	
117	RMG0158	BELT	
118	RMG0338-Q	STOPPER RUBBER	[MB]
119	RML0177	CHANGE LEVER	
120	RML0178-1	LOCK LEVER	
121	RMM0112	SLIDE PLATE 1	[MB]
122	RMM0113	SLIDE PLATE 2	[MB]
123	RMR0721-K	GEAR COVER	[MB]
124	RHD20009-1	SCREW	
125	RFKNLPG460AA	DRIVE RACK ASS'Y	[MB]
126	XTB3+8JFZ	SCREW	
127	XYN2+F6FZ	SCREW	
128	RFKNLPG460AB	CLAMP BASE ASS'Y	[MB]
129	RFKNLPG460AC	CLAMPER ASS'Y	[MB]
		ACCESSORIES	
A1	EUR642101	REMOTE CONTROL	[MB]
A1-1	UR64EC1326	BATTERY COVER	[MB]
A2	RJA0043-C	AC MAINS LEAD	⚠(E, EG) [MB]
A2	RJA0044-C	AC MAINS LEAD	⚠(EB) [MB]
A3	RQT2664-B	INSTRUCTIONS MANUAL	(EB) [MB]
A3	RQT2665-D	INSTRUCTIONS MANUAL	(EG) [MB]
A3	RFKSLPS770AE	INSTRUCTIONS MANUAL	(E) [MB]
A4	SJP2276	STEREO CONNECTION CABLE	
A5	RQA0013	WARRANTY CARD	
A6	RQCB0169	SERVICE CENTER LIST	
		PACKING MATERIALS	
P1	RPG2276	PACKING CASE	[MB]
P2	RPN0842	CUSHION	[MB]
P3	XZB23X35C03	PROTECTION BAG	
P4	SPP730	PROTECTION BAG	

Ref. No.	Part No.	Part Name & Description	Remarks
		GREASE OR JIG/TOOL	
SA1	RFKXEM30L	GREASE	
SA2	SZZP1054C	TEST DISC	

Note: The reference number SA represent the grease and tool used for this unit.

Packaging


P3
A1, A3, A4, A5, A6
A2
P2
P4
P2
P1

Printed in Germany
MBV F9410 TW/YU/TN